

A mixed-methods investigation of the impact of prolonged COVID-19 restrictions on expectant and newborn parents' experiences of control

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Abstract

Background: Parental sense of control during pregnancy and early parenthood is critical for self-efficacy, parenting behaviour, and child outcomes. Restrictions during COVID-19 led to a decline in parental sense of control but less is known about the impact of prolonged restrictions.

Aims: To investigate the impact of prolonged COVID-19 restrictions on expectant and newborn parents' experiences of control over decisions regarding pregnancy and parenting.

Method: Quantitative and qualitative survey data was collected from 130 expectant and newborn parents approximately one year after first restrictions in response to COVID-19 were introduced in the UK (April-October 2021) to examine control over decisions during prolonged restrictions.

Results: The majority of expectant parents reported negative experiences of control as opposed to just over half of newborn parents. Expectant parents qualitatively described only factors reducing their experience of control, whereas newborn parents described both factors that reduced and increased their experience of control. Most expectant parents reported no change in confidence, however the majority of newborn parents reported feeling less confident over time. Both groups of parents reported feeling lonelier over time.

Conclusion: Both expectant and newborn parents experienced reduced control over pregnancy and parenting decisions during COVID-19 prolonged restrictions, with qualitative reports highlighting unique challenges for the two groups. The findings highlight ways in which experience of control could be improved for expectant and newborn parents.

Keywords: COVID-19; parenting; control; pregnancy; infancy

INTRODUCTION

A greater locus of control has been robustly associated with adaptive responses to stress and improved social and psychological outcomes (1-3). People are more likely to consider they can manage stressful situations and perceive negative events as challenges rather than threats when perceived control is high. When people feel that circumstances are out of their control, they are more likely to be upset and stressed by negative situations (4,5). In the context of parenthood, parents' sense of control impacts self-efficacy beliefs, parental behaviour, as well as child outcomes (6-8). Parental locus of controlⁱ has been defined as '*parents' perceived power and efficacy in child-rearing situations*' (9: p.100). Parents with low levels of control often feel that external factors are responsible for their child's development, whereas those who feel in control regard their child's development as down to their own efforts (9). Expectant parents with greater internal locus of control are more active in seeking parenting information, which can, in turn, impact their level of preparation (and confidence) in dealing with future child-rearing challenges (8). Perception of control during labour is also important (10) and has been associated with childbirth satisfaction and fewer anxiety symptoms at two months postpartum, lower fear of birth and higher levels of satisfaction of care during and after birth, lower levels of post-natal depression, and improved physical recovery after delivery (11-13). Studies examining the impact of parental control in parents of infants

have been more limited. One study found that low perceived parental control was associated with less positive parent-infant interactions (14). Similarly, parents with a more external locus of control are more likely to display less soothing and more reactive (e.g., “shout at” and “smack/shake”) behaviours towards their toddler during a tantrum (8).

The COVID-19 pandemic brought about many changes to daily life and created a sense of loss of control as a reaction to extensive restrictions and the unpredictability of the pandemic’s dynamics (15). In the UK, the period from March 2020 to April 2021 was a time of great uncertainty with various lockdowns and restrictions, which were often temporary and unpredictable in nature, being lifted and then re-instated when the number of COVID-19 cases rose. During this time, maternity services underwent extensive changes (16,17), including more remote monitoring of pregnancy, and reductions in offering home birth and partner involvement. Although many services had resumed by January 2021, disruption to midwifery-led services was ongoing (16) and changes to services were experienced throughout the first year of the pandemic (18-19). Qualitative surveys of women who were expecting or gave birth between March and September 2020 in the UK suggested that many experienced significant changes to their labour and birth plans, including a reduction in choices and options (19,20). Similar difficulties in access and support were found for postnatal services (18,21). Given this pattern of significant disruption it is perhaps not surprising that ‘loss of control due to COVID-19’ was found to be one of the main themes amongst participants in a large qualitative survey of expectant and new parents in the UK in May 2020 (22). Parents described a loss of autonomy and normality due to restrictions, which limited their ability to engage in daily activities and make future plans, and negatively impacted mood (22). In addition to a decline in expectant and new parents’ sense of control, parental loneliness (23), as well as parental confidence, social support, and mood (24) were negatively impacted by the pandemic. Importantly, while most studies focused on the impact of COVID-19 and

associated restrictions in the first year of the pandemic, lockdown regulations and restrictions to maternity services and health visiting services carried on into 2021 and beyond. One study examined qualitative experiences of pregnancy, childbirth and having a new baby in three waves over the first 18-months of the pandemic in the UK and found that constantly shifting rules and restrictions left women feeling not in control of their pregnancy and birthing plan, with decisions being made at the last minute or changed to work around restrictions that were in place at the time (25). Such studies, examining the impact of prolonged restrictions on experiences in early stages of parenthood during COVID-19, remain limited. The present study investigated the impact of prolonged restrictions in response to COVID-19 on expectant parents' and newborn parents' experiences of control over decisions regarding pregnancy and parenting and examined the relationship between perceived level of control and factors known to be impacted by the pandemic and to influence parenting, including parental loneliness, confidence, social support, and mood. This exploratory study did not set out to compare the two groups of parents but rather sought to understand the unique and shared experiences of control in each stage of early parenthood within the context of prolonged COVID-19 restrictions.

METHOD

Participants

130 participants were recruited (47 expectant and 83 newborn parents). Advertisements for taking part in the online survey were posted on Facebook groups for parents, expectant parents, or partners of those expecting. The inclusion criteria for participation were: a) be currently pregnant/have a pregnant partner or have a baby younger than 6 months old; b) live in the UK; and c) be above the age of 18 years. The majority of participants were female, between 25-34 years old, White, and with a

household income above the national median of £31,400 (26). Details of participant characteristics are provided in Table 1.

Table 1.

Participant characteristics.

		Expectant Parents n=47 count (percentage)	Newborn parents n=83 (count/percentage)
Age	18-24 years	2 (4.3)	2 (2.4)
	25-34 years	26 (55.3)	44 (53.0)
	35-44 years	9 (19.1)	14 (16.9)
	45+	0 (0)	1 (1.2)
	Missing	10 (21.3)	22 (26.5)
Sex ^a	Male	1 (2.1)	3 (3.6)
	Female	45 (95.7)	79 (95.2)
	Missing	1 (2.1)	1 (1.2)
Ethnicity ^b	Asian or Asian British	2 (4.3)	3 (3.6)
	Mixed	0 (0)	1 (1.2)
	White	34 (72.3)	57 (68.7)
	Prefer not to say	1 (2.1)	0 (0)
	Missing	10 (21.3)	22 (26.5)
Income	Up to £20,999	3 (6.4)	4 (4.8)
	£21,000-£40,000	4 (8.5)	14 (16.9)
	£41,000-£60,000	7 (14.9)	12 (14.5)
	£61,000-£80,000	12 (25.5)	14 (16.9)
	£81,000-£100,000	2 (4.3)	6 (7.2)
	More than £100,000	6 (12.8)	10 (12.0)
	Missing	13 (27.7)	23 (27.7)

Control ^c	High control	14 (29.8)	35 (42.2)
	Low control	26 (55.3)	31 (37.3)
	Missing	7 (14.9)	17 (20.5)

^aSex: the option to select 'other' and describe was provided but not selected.

^bEthnicity: A range of ethnicity categories were provided, however not all were selected: Asian or Asian British (Indian, Pakistani, Bangladeshi, any other Asian background), Black or Black British (Caribbean, African, any other Black background), Mixed (including White & Black Caribbean, White & Black African, White & Asian, any other mixed background), White (including British, Irish, any other White background), Other, Prefer not to say.

^cControl: Participants in each group of parents were allocated into a 'high control' group if they reported feeling moderately, very, or always in control over decisions and into a 'low control' group if they reported feeling slightly or not in control over decisions. The questions on control are described in the "Measures" section.

Measures

The online survey included both qualitative and quantitative questions examining the experience of being pregnant or a newborn parent during the pandemic. Full details of the questionnaire have been previously described (24). Existing questions assessing social support, advice and mood were examined quantitatively in both groups of parents.

To examine the impact of prolonged restrictions, four additional quantitative questions and two optional qualitative questions were added to the survey in April 2021. First, we asked participants how much in control they felt over pregnancy (expectant group) or parenting (newborn group) decisions with five forced-choice answers: 'not in control', 'slightly in control', 'moderately in control', 'very in control', 'always in control'. We, then, asked them to describe their experience of control over pregnancy/parenting decisions as 'positive', 'negative' or 'neutral'. After selecting a response option, participants were given the

option to provide a written *qualitative* description of their experience of control via an open text without restriction in length. We also asked participants whether prolonged restrictions from COVID-19 made them feel 'less', 'no change' or 'more' confident and lonely over time, respectively.

Procedure

The cross-sectional survey was conducted online via UCL Qualtrics (Qualtrics LLC, London, UK; see <https://www.qualtrics.com/uk>), using a convenience sampling method. Data collection took place between April 2021 and October 2021. The survey was anonymous and took no more than 10 minutes to complete. A list of resources for confidential support and advice was provided at the end of the survey. Participants were provided information sheets and completed online consent forms before proceeding to the questionnaire. All procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. All procedures involving human subjects/patients were approved by University College London Research Ethics Committee (7683/003).

Data analysis

Quantitative

Responses to questions regarding prolonged restrictions were reported descriptively.

Expectant and newborn parents were examined separately as the question regarding control over decisions during prolonged restrictions from COVID-19 was worded differently: decisions regarding pregnancy or parenting decisions, respectively. For allocation to 'high control' and 'low control' group see Table 1.

Given that sample sizes were small and sample distributions were not normally distributed, a Mann-Whitney U test was used to examine whether parents reporting 'high control' differed from those reporting 'low control' on: i) experience of control, ii) support from partner, iii) support from friends, iv) support from family, v) amount of parenting advice received from parents and family, vi) amount of parenting advice received from friends, vii) amount of parenting advice received from medical professionals, viii) feelings of confidence, ix) feelings of loneliness, and x) general mood. Bonferroni-Holm correction was used to account for multiple comparisons.

Qualitative

An inductive thematic analysis of qualitative responses was conducted to identify factors that reduce and increase participants' experience of control. The researchers initially familiarised themselves with the data. Data was divided into two groups: expectant parents and newborn parents. One independent rater coded all responses from the expectant group and another one from the newborn group. Researchers were blind as to whether participants selected 'positive', 'negative', or 'neutral' for their experience of control. The researchers discussed their coding and organised lists of codes into a coding framework, with inclusion and exclusion criteria for each code. The framework was inclusive for both expectant and newborn parents. Inter-rater reliability was established ($\kappa > 0.85$) by recoding 65% of the total sample, using the coding framework, while being blind to group status. The raters, then, divided the rest of the sample (35%) and completed coding. Ambiguous instances were resolved through discussion, and the two raters developed and refined themes together. Themes, subthemes and counts of number of responses related to each subtheme are included in Table 2.

RESULTS

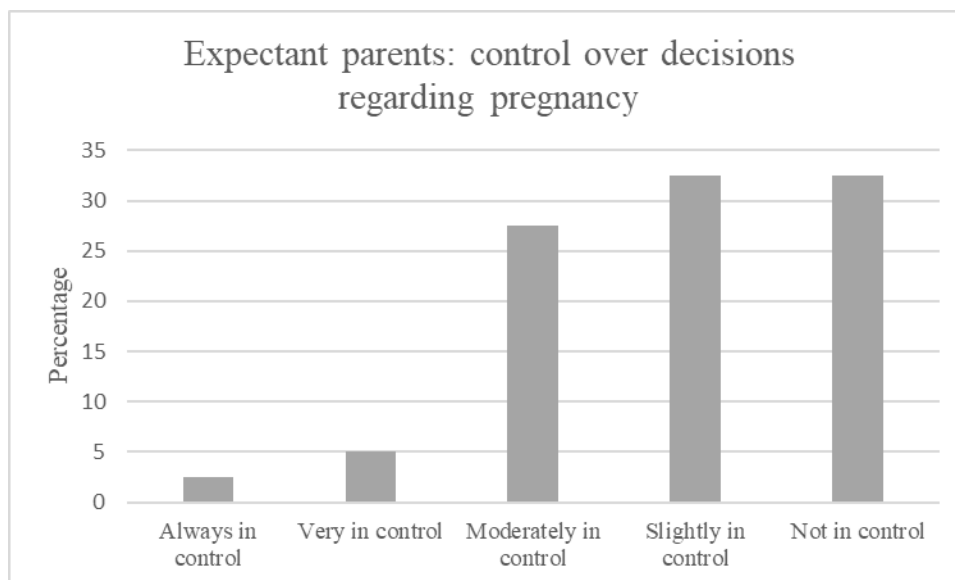
Quantitative

Expectant parents: Impact of prolonged restrictions

Level of control: 32.5% of participants felt not in control, 32.5% felt slightly in control, 27.5% felt moderately in control, 5% felt very in control, and 2.5% felt always in control during the prolonged restrictions from COVID-19 (see Figure 1).

Figure 1.

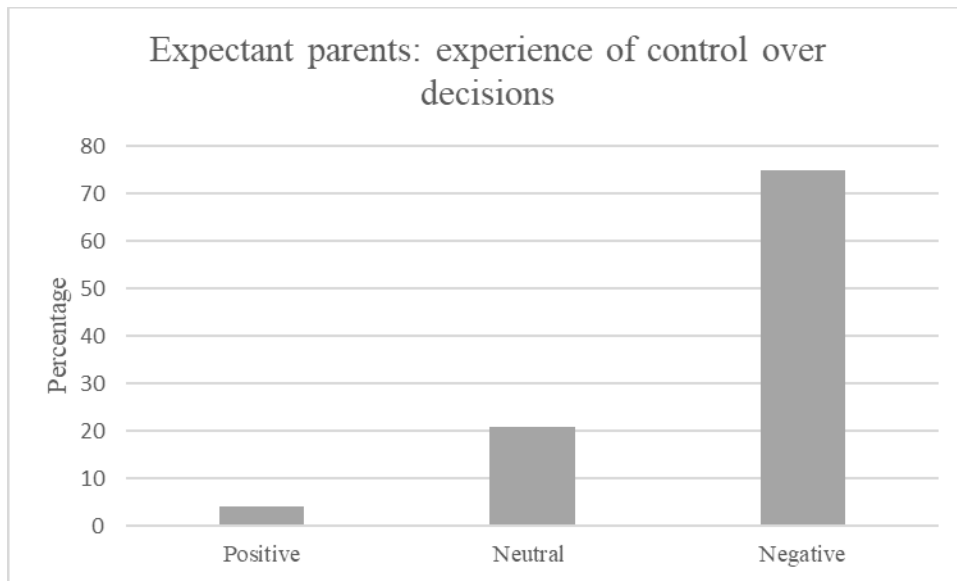
Expectant parents' control over decisions regarding their pregnancy



Experience of control: 75% of participants felt it to be negative, 20.8% felt it was neutral, and 4.2% felt it was positive (see Figure 2).

Figure 2.

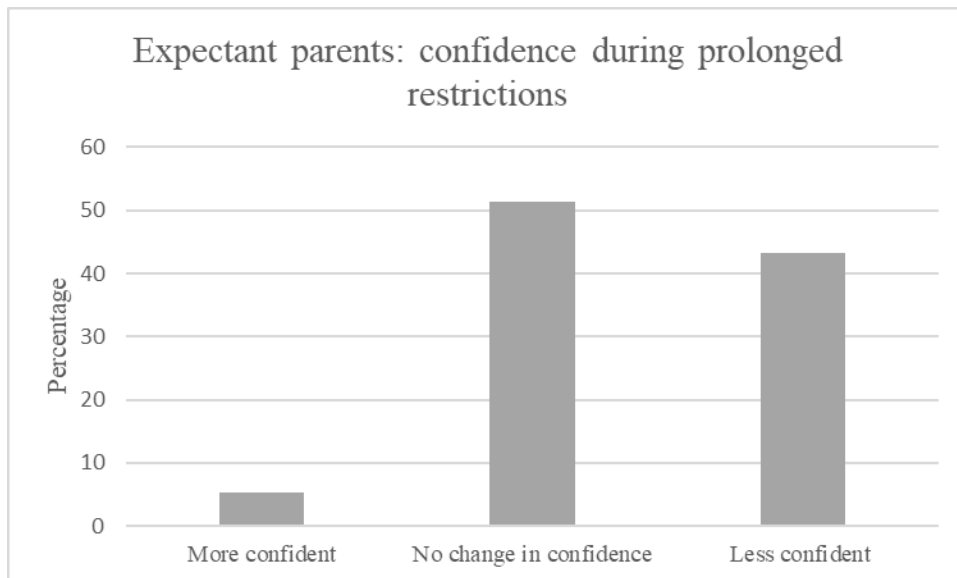
Expectant parents' experience of control over decisions regarding their pregnancy



Confidence: 43.2% of participants reported feeling less confident, 51.4% reported no change in confidence, and 5.4 % reported feeling more confident over time (see Figure 3).

Figure 3.

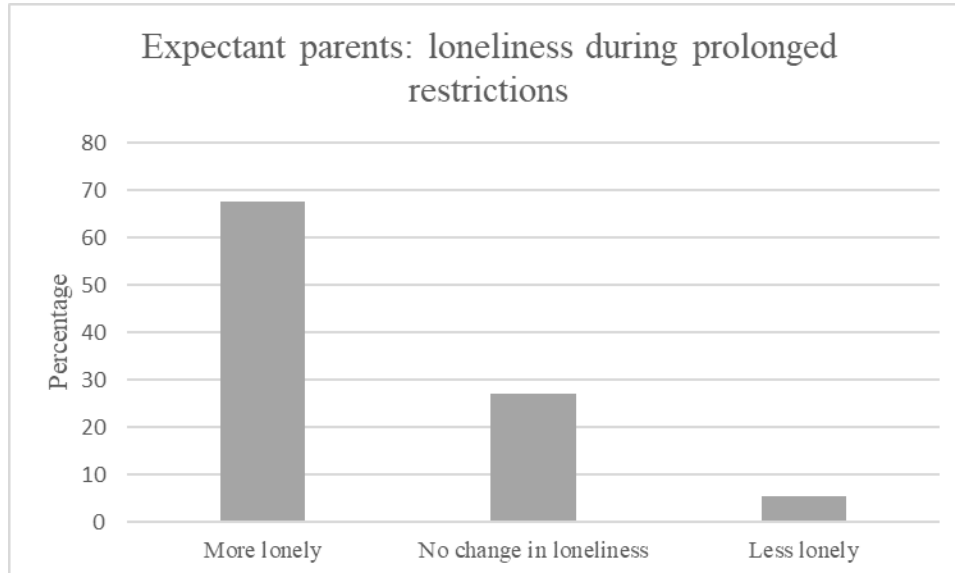
Expectant parents' confidence during prolonged restrictions from COVID-19



Loneliness: 67.6% of expectant parents reported feeling lonelier over time, while 27% reported no change in loneliness, and 5.4% reported feeling less lonely over time (see Figure 4).

Figure 4.

Expectant parents' loneliness during prolonged restrictions from COVID-19



Expectant parents: 'High control' vs 'Low control' for expectant parents

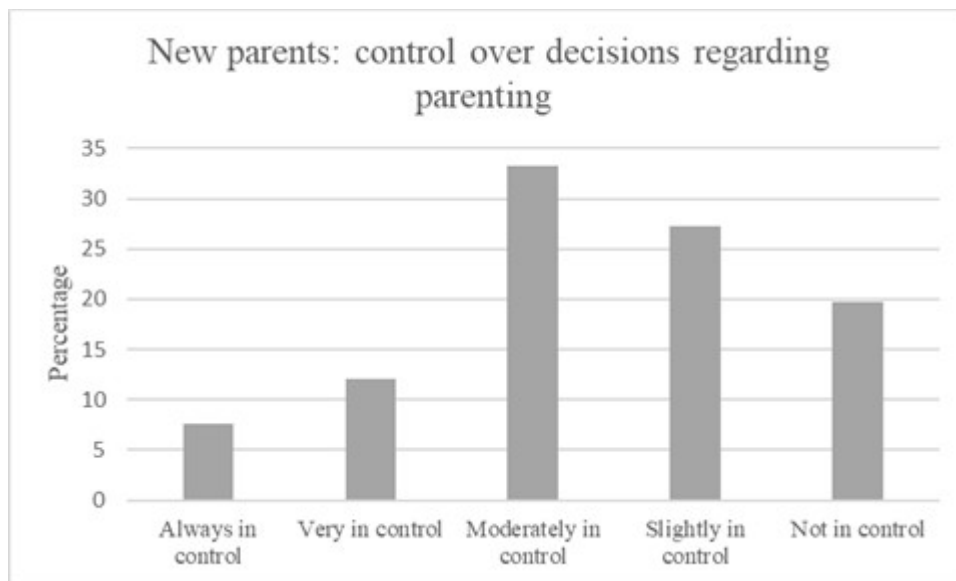
The mean rank general mood score was statistically significantly higher (happier) in the 'high control' group (25.50) than in the 'low control group' (17.81), $U = 252$, $z = 2.13$, $p = .033$, however this was no longer significant after correction for multiple comparisons. The expectant parents who reported 'high control' did not differ from those who reported 'low control' on any other variables.

Newborn parents: Impact of prolonged restrictions

Level of control: 19.7% of participants felt not in control, 27.3% felt slightly in control, 33.3% felt moderately in control, 12.1% felt very in control, and 7.6% felt always in control during the prolonged restrictions from COVID-19 (see Figure 5).

Figure 5.

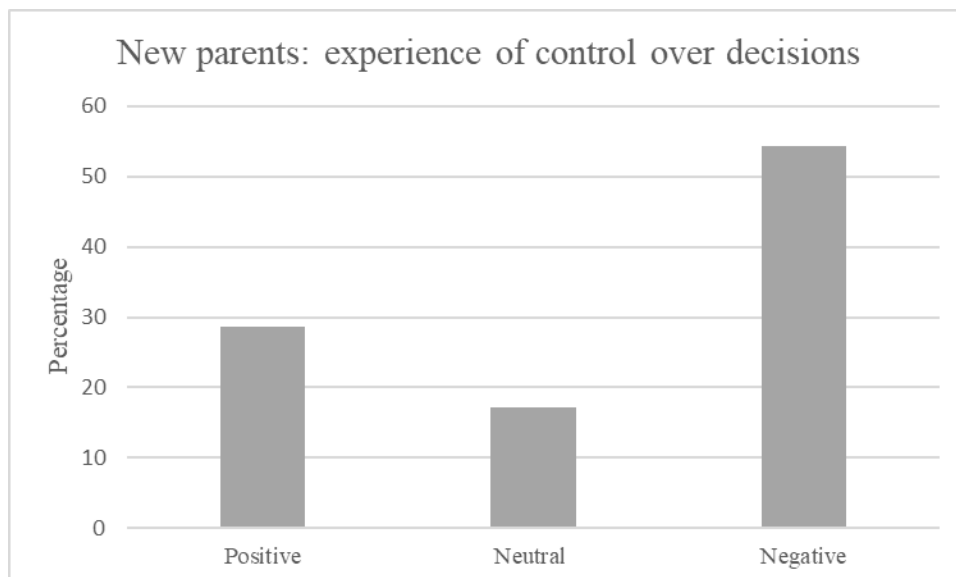
Newborn parents' control over decisions regarding parenting



Experience of control: 54.3% of participants felt it to be negative, 17.1% felt it was neutral, and 28.6% felt it was positive (see Figure 6).

Figure 6.

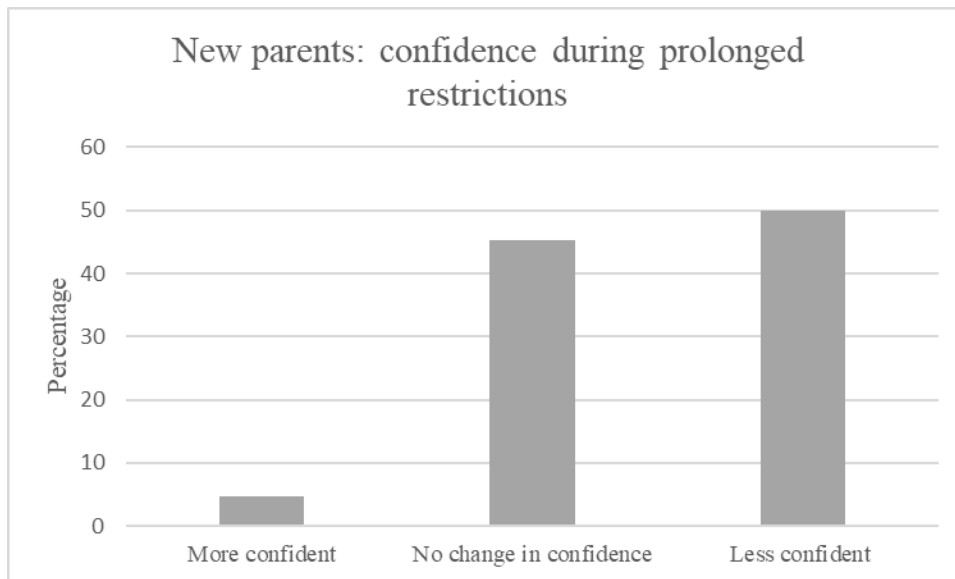
Newborn parents' experience of control over decisions regarding their parenting



Confidence: 45.2% reported no change in confidence, and 4.8% reported feeling more confident over time (see Figure 7).

Figure 7.

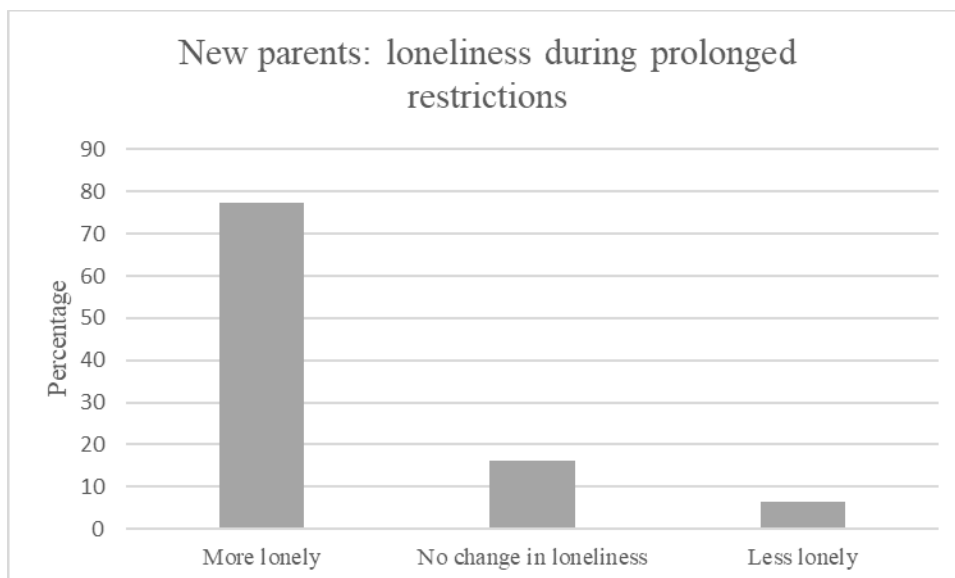
Newborn parents' confidence during prolonged restrictions from COVID-19



Loneliness: 77.4% of participants reported feeling lonelier over time, while 16.1% reported no change in loneliness, and 6.5% reported feeling less lonely over time (see Figure 8).

Figure 8.

Newborn parents' loneliness during prolonged restrictions from COVID-19



Newborn parents: 'High control' vs 'Low control' for new parents

The mean rank general mood score was statistically significantly higher (happier) in the 'high control' group (39.34) than in the 'low control group' (26.90), $U = 747$, $z = 2.76$, $p = .006$, and remained significant after correction for multiple comparisons. The mean rank confidence score was statistically significantly higher in the 'high control' group (37.79) than in the 'low control group' (22.44), $U = 690$, $z = 3.79$, $p = .000$, and remained significant after correction for multiple comparisons. The mean rank loneliness score was statistically significantly higher in the 'low control' group (36.19) than in the 'high control group' (26.88), $U = 319$, $z = -2.85$, $p = .004$, and remained significant after correction for multiple comparisons. The newborn parents who were 'high control' did not differ from those who were 'low control' on any other variables.

Qualitative

Out of 47 expectant and 83 newborn parents, 24 expectant (51.1%) and 34 newborn parents (41%) provided qualitative responses to the question about experience of control regarding pregnancy/parenting decisions. Thematic analysis revealed two themes: "Factors reducing control" and "Factors increasing control" but the latter only emerged in the newborn group.

Table 2.

Themes, sub-themes and counts for expectant and new parents

Theme 1	Factors reducing control	Expectant Parents: Count* (%)**	New Parents: Count* (%)**
Subtheme 1	Partner not attending appointments/labour	17 (70.8%)	9 (26.5%)
Subtheme 2	Decreased support	4 (16.7%)	12 (35.3%)

Subtheme 3	Less opportunities for socialisation	1 (4.2%)	12 (35.3%)
Subtheme 4	Worries about COVID-19	3 (12.5%)	3 (8.8%)
Theme 2	Factors increasing control		
Subtheme 1	Being at home	0 (0%)	7 (20.6%)
Subtheme 2	Less people meddling	0 (0%)	4 (11.8%)

**Count: the number of responses related to each sub-theme*

***Percentage (%): percentage of total sample represented in each sub-theme*

Theme 1: Factors reducing control

Sub-theme 1: Partner not attending appointments/labour

Expectant parents

Most participants described the importance of having their partners with them during medical appointments for “feeling in control”, e.g., *“Obviously some restrictions have given me less control e.g., how often my partner can be there to support me”*. Many participants described how challenging it was to be alone both in routine checks and scans, as well as in more difficult appointments such as *“a scan of possible miscarriage”*. Some described feelings of confusion and uncertainty, such as *“one minute my husband can, then he can’t, then he can again with a negative test?”* and *“really why I have to attend everything on my own”*. Apart from feeling supported, having their partners with them during checks and scans meant that they could also be involved in the decision-making, which *“should be something husband and I do fully together -*

not him waiting in the car". For many participants the prospect of being alone during labour or in the ward after the birth was a source of distress, which they described as something "*I am constantly worried...*" and "*I am more concerned about*".

Newborn parents

Many participants mentioned the absence of their partner due to hospital restrictions during pregnancy and after the baby was born as a factor influencing their experience of control. Attending scans and appointments on their own while pregnant was described as "*really isolating, ... hard...*", feeling like "*I had to go through things alone, without my partner*". Having to be on their own in the ward or in postnatal healthcare appointments meant that their partner was removed from a supportive role in decision-making when issues or challenges arose, e.g. "*unable to make decisions about professional care*", and "*make decisions about my son's treatment without my partner*". Participants found difficult having "*to explain it all again to partner*" while in a vulnerable emotional state. This was not only difficult for mothers but also their partners who missed opportunities to "*help bond before baby is born*", whilst being "*made to feel like he was not important throughout Covid*".

Sub-theme 2: Decreased support

Expectant parents

Some participants described challenges with experience of control due to decreased support. Namely, they mentioned difficulties with the remote aspect of the support available to them, e.g. "*did not like telephone consultations at 16 weeks when it's usually the opportunity to hear the babies heartbeat*" and felt they "*don't know anyone properly yet*". They sometimes failed to access medical support when needed, e.g. "*16wk appt happened at 20wks*" and described the support from their midwife as "*disappointing*".

Newborn parents

Decreased support was also reported by newborn parents. Remote support was not favourable for some parents, and they described how they “*don’t like connecting online only*” and relying on screens more, meant they had to “*let standards of parenting slip in order to ‘survive’*” during the lockdown measures. Not being able to access “*normal services or groups with my baby*” was “*frustrating*”. Similar to expectant parents, newborn parents also described how the “*very little control of*” access to medical support and “*limited to no time or help from medical professionals*” did not help them feel in control of their decisions. Besides, they mentioned how having support from family and friends would have made decisions easier for them and offered reassurance as they could “*check with others about what I feel/have decided is right*”, but due to restrictions, there was “*no support outside of home*”.

Sub-theme 3: Less opportunities for socialisation

Expectant parents

One participant reported feeling less in control due to a lonely pregnancy. They mentioned “*everything being so different*” without specifying if this was compared to previous pregnancies or their expectations and that apart from their birth partner being able to attend upon admission to the ward, “*I’ve felt pretty alone in this pregnancy*”.

Newborn parents

Many participants described how interacting with other people in person was crucial for their experience of control. They reported that their babies did not interact as much with others, e.g. unable to attend “*activities or groups in order to meet other children*” and were concerned about how this could affect their social skills in the long run, e.g. not used to interacting “*with people outside our immediate family*”. Participants also shared a feeling of missing out on things they could

have done with their babies and getting “*robbed of so many experiences*”.

Sub-theme 4: Worries about COVID-19

Expectant parents

A few participants reported not feeling in control because of their anxiety about COVID-19. One participant mentioned that this anxiety stemmed from how others were “*not taking guidance as seriously*” and another described how this stress had a substantial impact on her mental health, and “*ended up with anxiety and OCD ... wouldn’t go near my step daughter as she was in school and I would cry every time she came into the house because she brought germs in*”.

Newborn parents

A few participants also described COVID-19-related stress as a factor that made them feel less in control, e.g. “*an additional threat*”, leading to “*huge levels of anxiety*”, as well as making “*difficult decisions and weigh up pros and cons with going places to protect him from getting covid*”.

Theme 2: Factors increasing control

Sub-theme 1: Being at home

Newborn parents

Many participants described how being at home due to restrictions helped increase their “feeling in control”. Parents could breastfeed at ease in their own private space, “*without needing to feed in public*”, and take control over their baby's nutrition. They also described how having their partners at home meant they “*have been able to consult my husband*”. Additionally, being at home resulted in “*more one on one time with the baby*”, which might have been less frequent if not for the restrictions. Not having to go outside helped parents get to know their

baby and their needs better, as well as organise their everyday life in a way that made it *"easier to fall into a natural routine according to baby's needs"*.

Sub-theme 2: Less people meddling

Newborn parents

Several participants described their experience as *"good with less people meddling"* as this allowed them to feel more in control of their parenting decisions. Having people outside the family interfering in the baby's upbringing and offering tips was described as *"outside influences to put pressure on us as a family"* and *"unwanted advice or comments"*. In the absence of these interactions, they felt more empowered in their parenting and *"were able to control how we wanted to parent our kid"*.

DISCUSSION

The current findings showed that both expectant and newborn parents experienced reduced control over pregnancy and parenting decisions during COVID-19 prolonged restrictions, with qualitative reports highlighting unique challenges for the two groups.

Most expectant parents reported negative experiences of control, feeling minimally or not in control over pregnancy decisions, as opposed to just over half of newborn parents, some of whom felt minimally or not in control over parenting decisions. While there were no significant differences between expectant parents who experienced 'high control' vs. 'low control' on a range of variables including loneliness and confidence, this could be due to the fact that most expectant parents reported having 'low control' which may have limited the ability to detect differences. In contrast, newborn parents in the 'low control' group experienced lower mood, less confidence, and more loneliness than those in the 'high control' group, in line with evidence that higher levels of control are associated with lower levels of postnatal depression (13). However, it is

worth noting that the difference in sample sizes between the two groups prevents us from making strong assumptions about the differential impact of control.

Both expectant and newborn parents described factors reducing their experience of control: feeling worried and uncertain when not having their partner attend appointments and/or labour; decreased support from family, friends and professionals and frustration with remote access; and reduced opportunities for socialisation for themselves and babies (for newborn group). These results highlight the important role of perceived social support in feelings of control, particularly during times of disruption (27,28). Concerns about the ongoing threat of COVID-19 and perceived lack of support within the medical context were also reported as factors reducing experience of control, in line with the concept of health locus of control (HLC), (29,30), referring to beliefs concerning health issues, in terms of the individual's sense of control and responsibility over health-related decisions and issues. Previous research has shown that control over decisions, such as giving birth at home, led to an increase in health-related control and less pregnancy-related anxiety in expectant mothers during COVID-19 (31,32), whereas reliance on hospital services for pregnancy and birth, i.e. an external health locus of control, increased their feelings of loss of control and worries.

Interestingly, newborn parents were able to also describe factors that increased their experience of control. Having more time at home due to prolonged restrictions helped them in a range of ways, including not having to breastfeed in public, and having their partner more available. Being at home also afforded newborn parents more dedicated time with their baby and allowed for ease in routines. This is in line with Sledge et al. (33), who reported that increased bonding time was one of the most enjoyable aspects of raising a newborn baby during lockdown. Newborn parents also described how prolonged restrictions meant that there was less interference from others and external pressures on the family, which

allowed them to have control over parenting decisions, in line with research by Perez et al. (24), who found that parents who lost childcare during COVID-19, and were solely involved in their child's care, had greater parenting confidence. Overall, these results highlight the need for further understanding of parents' subjective experience of support, instead of only focusing on whether the parent has support or not.

Regarding confidence, most expectant parents reported no change, although there was still a significant proportion feeling less confident. In contrast, the majority of newborn parents reported feeling less confident over time. These results complement previous findings of reduced confidence in both expectant and new parents during the pandemic (24), but also offer a window into the differences between the two groups. The reduced confidence in newborn parents is in line with Xue and colleagues (34), who found reduced self-efficacy in parents that cared for a young infant during the COVID-19 lockdown periods in comparison to parents who cared for infants before or after this period. These results support the increased toll of the pandemic measures on new parents but also suggest that prolonged restrictions might impact newborn parents' confidence to a larger extent. Leerkes and Burtney (27) described the early stages of parenthood as a period of constant readjustment of parents' efficacy beliefs through their engagement with the infant over time. Going through this stage during COVID-19, with increased uncertainties, may aggravate an already challenging period and put newborn parents at risk for reduced self-confidence. Perceived social support, which is key for postnatal confidence in parenting, was compromised by COVID-19 restrictions, as reported in previous studies (24, 35) and the current study.

Regarding loneliness, both expectant and newborn parents reported feeling lonelier over time, perhaps reflecting both the increased loneliness reported during the pandemic in the general population (36) and the increased loneliness during parenthood, with particular

difficulties in pregnancy and early postnatal stages (37). Future studies should examine the unique aspects of prenatal and postnatal loneliness to fully understand the impact of the pandemic measures on parental well-being.

In sum, expectant and newborn parents seem to have been affected by the prolonged restrictions in similar ways, with both groups experiencing reduced control and confidence, increased loneliness, lower mood, health worries, and lack of support. However, qualitatively, these were experienced differently by both groups and newborn parents reported factors that not only reduced but also increased their experience of control. These results illustrate the unique experiences of both groups of parents and hint potential differences in the parental and mental well-being outcomes of the prolonged restrictions. Further studies on individual factors, such as the propensity for an internal or external locus of control, or personality traits, are needed to understand the precursors of intra-group differences.

Strengths and limitations

This study is timely as some maternity and postnatal services for mothers and babies continue to be offered remotely and there are some ongoing restrictions to services, which vary by region. The study also benefits from the inclusion of both quantitative and qualitative methods, which allowed for a greater depth of understanding of participants' experiences. It is important to note that the findings were limited to the current sample. Convenience sampling resulted in a relatively homogenous sample so future studies could examine the impact of prolonged restrictions in underrepresented populations, including males, those from ethnically diverse backgrounds, and those from lower socio-economic backgrounds.

Implications and conclusions

The findings highlight the challenges posed by prolonged restrictions for expectant and newborn parents, particularly in relation to their experience of control. Both groups of parents qualitatively described how reduced partner involvement, decreased support, less opportunities for socialisation, and concerns about COVID-19 contributed to a reduction in feelings of control. However, each group reported unique challenges in these areas, as well as differential impact on their mood, confidence, and loneliness. Professionals offering support to new and expectant parents may seek to include partners in care and decision making whenever possible and prioritise opportunities for socialising with others. The current study also helped to identify factors that increased sense of control in newborn parents, including spending more time at home and experiencing less unwanted advice. Support from others is important for both groups, however it is essential to recognise that new parents often feel pressure from outside influences. In contrast, expectant parents were not able to describe any factors that improved their experience of control, so further research into ways of supporting expectant parents is warranted. This is one of the few studies examining the specific impact of prolonged restrictions, which can be generally informative to families and parents that experience restrictions due to reasons other than COVID-19, such as chronic illness or socio-political circumstances. Although these findings highlight ways in which experiences of control could be improved within the context of COVID-19, they have wider implications for service delivery, particularly regarding the involvement of partners and opportunities for connecting with other parents.

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Author contributions

E.P., A.P., R.R. and E.S. formulated the research question(s) and designed the study. R.R., E.S., P.C., M.-C.V., and E.P. carried out the study and analysed the data. All authors contributed to the interpretation of the data, writing and review of the article, and approved the manuscript for publication.

Data availability statement

Quantitative, group level data that support the findings of this study can be requested from the corresponding author, R.R., who will seek approval from the Research Ethics Committee. Qualitative data are not available owing to the sensitive nature of the data that may enable identification of participants. The data are not publicly available due to privacy or ethical restrictions.

ⁱ Due to the variability of terms used in the available literature, particularly in the field of parenthood, (i.e. "locus of control", "sense of control" "perceived control"), we make use of terms according to the sources cited yet, for the current study the term used is "experience(s) of control".