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# Covid-19, pelvic health, and women's voices: A descriptive study

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## ABSTRACT

**Objective:** To examine how the pandemic affected women with pelvic dysfunction.

**Methods:** A Survey Monkey™ online questionnaire on how the pandemic and Covid-19 infection affected women's pelvic problems, exercise, and weight. A free text box captured their comments.

**Results:** Six hundred and forty-seven women took part. Bladder control 265 (41%), prolapse 240 (37%), pelvic pain 40 (6%), sexual dysfunction 27 (4%), faecal incontinence 19 (3%) and other symptoms 56 (9%) were women's main pelvic problems. Symptoms were unchanged for 331 (51%), worse for 243 (38%), and improved for 60 (10%). Weight was gained by 290 (45%), unchanged by 243 (38%), and lost by 114 (17%). Exercise levels were unchanged, worse, or better in 33% each.

Access to medical appointments and date for surgery were difficult for 235 (36.5%) and 38 (6%) women respectively.

Sixty-six (10.3%) women reported Covid-19 infection: the distribution of pelvic problems and changes through the pandemic, weight and exercise patterns, and difficulty accessing a date for surgery or healthcare were similar to those not contracting infection. Sexual dysfunction was the main new or worsening problem, featuring 13 women (18%).

Seventy women — 16 postnatal, and 54 with a pre-existing pelvic problem commented. Five core themes were identified. Difficulty accessing healthcare review, mental health impact and physiotherapy services especially affected delivered women: lifestyle alterations and conservative treatment tools were prominent in women with a pre-existing problem.

**Conclusions:** Pelvic floor dysfunction adversely affected women's mental health in the pandemic through limiting their ability to exercise. Furthermore, the pandemic exposed the fact that female pelvic health services are not readily available to those in need: many women particularly postnatally received no care. Sexual dysfunction was a feature of recovery from Covid infection in this study.

## 1. Introduction

There are reports of the effects of the Covid-19 Pandemic on gynaecology/urogynaecology services [1], but limited information on how the lives of women with pelvic symptoms have been impacted. The female pelvic floor is acutely and often critically affected by pregnancy and delivery, and postnatal care has been highlighted as a potential casualty of the pandemic [2]. Access to much healthcare was also seriously reduced: in the effort to reduce viral transmission, acute care became largely preoccupied with Covid-19 infection. The nature and volume of women's activities day-to-day changed with increases in childcare, home-schooling, and working from home [3]. Alterations in body weight [4] and recreational exercise levels [5] were also reported. As each of these factors can impact pelvic floor health, we aimed to examine how women with pelvic dysfunction were affected by the pandemic.

## 2. Methods

A Survey Monkey™ questionnaire, designed to capture women's pelvic issue, exercise, and weight through the pandemic, was developed. A free text box inviting women to comment was included. A history of Covid-19 infection, and its impact on continence and sexual function was sought using a previously developed tool [6]: this included a question on whether their problem was new or worse since contracting Covid-19. The questionnaire link was available from May 28 to July 16, 2021, on the EVB™ (support garments) website, and shared over social media by MASIC (Mothers with Anal Sphincter in Childbirth), PELVICROAR (Pelvic, Obstetric and Gynaecological Physiotherapy collaboration) and EVB™ over Facebook, Instagram, and Twitter.

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Qualitative methods were used to analyse free-text comments. Common themes were identified using the three stages of familiarisation [7]: pattern recognition [8], and reviewing, defining, and naming themes [9]. Data analysis was mainly undertaken by the lead author. As the main themes began to emerge and the data was continuously re-examined, team discussions led to ongoing review of the data and the identification of sub-themes until all relevant content was exhausted.

As this was an opt-in survey using the Survey Monkey tool, ethical approval was not required; however, the principles of confidentiality were applied and all data anonymised. In addition, principles of data collection/storage were honoured (Data Protection Act, 2018).

### 3. Results

#### 3.1. Outline results

Six hundred and forty-seven women completed the survey, the majority of whom – 540 women (84%) – accessed the survey through the EVB™ website. Among the 647 women, bladder control 265 (41%), prolapse 240 (37%), pelvic pain 40 (6%), sexual dysfunction 27 (4%), and faecal incontinence 19 (3%) were reported as their main pelvic problem. A further 56 (9%) women reported ‘other’ pelvic issues: all the foregoing 3, miscellaneous gynaecological 24, pelvic/joint pain 6, postpartum recovery 6, fourth degree tear 1, and miscellaneous 16.

During the pandemic pelvic problems were unchanged for 333 (51%) women, worse for 246 (38%), and improved for 62 (10%). Weight was gained by 290 (45%) women, unchanged by 245 (38%), and lost by 114 (17%). Exercise levels were increased, decreased and unchanged by one third of women respectively. Overall, 235 (36.5%) women had difficulty accessing appointments, and 38 (6%) had difficulty getting a date for surgery.

Sixty-six (10.3%) women reported Covid infection: bladder control 26 (41%), prolapse 23 (36%), pelvic pain 4 (6%), sexual dysfunction (0%), and faecal incontinence 4 (6%) were reported as their main pelvic issue. Over the pandemic, pelvic problems were unchanged in 29 (44%) women, worse for 28 (42%), and improved for 9 (14%). New or worsening symptoms were experienced by 7 (13%) women with a bladder problem, 4 (7%) with pelvic pain, 13 (18%) with sexual dysfunction and 2 (4%) with faecal incontinence. Weight was gained by 25 (38%) women, unchanged by 27 (42%), and lost by 13 (20%). Exercise levels were static in 18 (28%) of women, reduced in 25 (37%) and increased in 22 (35%). Also 25 women (39%) had difficulty accessing appointments, and 10 (16%) had difficulty getting a date for surgery.

We present the distribution and changes through the pandemic for both the Covid infection and non-infected groups in main complaints, weight, and exercise levels in [Tables 1](#) and [2](#).

#### 3.2. Thematic analysis of comments

Seventy women commented in the free text box, from which 2 groups were identified: 54 women with a pre-existing pelvic issue, and 16 who delivered a baby in the period preceding and during the pandemic. Five core themes were identified: difficulty accessing health care review, pelvic health physiotherapy services, conservative measures for pelvic symptoms, mental health impact, and lifestyle alterations. [Table 3](#) illustrates the number of women in the two groups who commented on these themes.

##### 3.2.1. Accessing healthcare review

Women recently delivered were particularly affected. Access to physiotherapy was mentioned most frequently, but doctors and midwives also featured. Some tried and failed to see any healthcare professional, and one third of this group accessed care privately. Avoidance of physical contact by staff caused distress and frustration.

*‘Daughter born just before first lockdown. Needed episiotomy to avoid grade 4 tear. Lots of pain with sex and difficulty opening bowels for 6*

*months... had telephone call with pelvic physio. Pain improved and techniques to help with bowels beneficial but still ongoing urine leaking with exercise. Unable to access face-to-face appointment for examination’*

*‘GP referred me to gynae, consultant didn’t want to get near anyone and stayed behind his desk...’*

*‘No face-to-face appts, making medical decisions over phone after refusing to see me...currently pregnant, discharged as nothing to be done & probably will worsen: no support whatsoever’*

*‘I work in health care and became pregnant in April resulting in pregnancy and birth during lockdown and restricted access to health care professionals and facilities’*

*‘Delivered recently, working from home so not as mobile, developed constipation & SUI. GP refused to see me & midwife didn’t examine me, telephone appt with physio eventually’*

Healthcare access was a less prominent theme in comments from women not recently delivered: these women found equally difficult access to gynaecology and physiotherapy review.

*‘I had 4th degree tears 12 years ago. I am waiting for renewal surgery for my SNS implant and appointments from urogynae and pelvic floor physio as I have a rectocele and cystocele.’*

*‘When I first started getting prolapse symptoms my GP wouldn’t see me face to face because of COVID... I called her again as I thought it might be a prolapse and was referred to a gynaecologist – without seeing the GP face to face – but the appointment took 6 months, and only when I made a huge fuss because my symptoms were affecting my day-to-day life’*

*‘Cancelled physio/gynae appts meant missed symptoms. Lack of swimming pool/gym meant reduced access to prolapse safe exercise options’*

##### 3.2.2. Pelvic health physiotherapy services

Almost all recently delivered women commented on the lack of access to physiotherapist services during or after pregnancy, and only two had a face-to-face appointment through the hospital system. Some had a telephone consultation, one had advice mailed to her, but the majority who sought this service were unsuccessful, resulting in several accessing care privately.

*‘Pelvic girdle pain in pregnancy, referred to physio... sent out printout with 5 exercises...’*

*‘I had my 2nd child Dec 2019 before Covid, was aware of my prolapse relapsing, & got specialist physio before Covid & lockdown. Then my prolapse went from bad to worse, couldn’t attend my normal classes...’*

*‘Delivered first baby and apart from one exam 3days later, no further check-ups. Something didn’t feel right, GP diagnosed prolapse 4months later. Long wait for physio, ended up paying privately’*

*‘Prolapse since Sept 2020, phone consult with GP who referred me to hospital, also tried to see physio, this week got appts for Sept 2022 with both’...’*

*Traumatic forceps...no NHS help, had to access physio privately...’*

Many respondents not previously delivered had previously seen a pelvic health physiotherapist, and access in the short-term was not particularly problematic. However, several commented on the paucity of specialist physiotherapy services.

*‘...referred for physio just before lockdown and it got cancelled as a result. It was nearly a year before I received help via virtual appointment... a miserable year of zero improvement’*

*‘I thankfully found a private Physio after doing my own research to identify... my problem... and that physio was what I needed’*

*I used therapists on Youtube... specialised classes had to be virtual... online workouts made my prolapse much more manageable...’*

*‘Vaginal wall prolapse since birth of son... physio appt before pandemic, cancelled repeatedly’...’*

*‘It was difficult to find someone in the U.S. that specialised in Pelvic Health... the closest therapist was 30 miles away. I found another therapist closer a year later, but no late/ weekend hours. A combination of EVB, Acupuncture and following therapists on YOUTUBE helped, but... there should be more... qualified and trained professionals’*

**Table 1**  
Distribution of main complaints in Covid infection, and non-infected group.

	n	Bladder Symptoms %	Prolapse %	Pelvic pain %	Sexual Dysfunction %	Faecal Incontinence %	Other %
Non-infected group	591	41	38	8	3	3	10
Covid infection	66	41	38	7	0	6	7

**Table 2**

Percentages of women in Covid infection, and non-infected group reporting static, disimproved or improved pelvic symptoms; static, loss or weight gain; static, less, or more exercise.

	Static %	Reduced %	%
<b>Pelvic Symptoms</b>			
Non-infected	52	37	11
Covid infection	44	43	13
<b>Weight</b>			
Non-infected	38	17	45
Covid infection	42	20	38
<b>Exercise levels</b>			
Non-infected	33	31	36
Covid infection	28	37	35

### 3.2.3. Other conservative measures used

For symptom alleviation recently delivered women only referenced physiotherapy. However, those with pre-existing pelvic problems familiar with or using other measures, rated their experiences positively. Almost half mentioned recreational exercise: women regularly ran, walked, and engaged in sports. Many commented on the beneficial influence of exercise on their pelvic floor function.

*'Uterine prolapse after traumatic delivery, 3 years later saw physio, got a pessary, I now can run'*

*'I have hypermobility & 3rd degree tear, SUI & prolapse, Surgery didn't help - I bought EVB & have done couch to 5k and can run for 30mins. I'm in my 50's, thought I never would be able to run, it has boosted my confidence so much...'*

*'Unable to play badminton in 2020 due to covid but continued gardening and walking'*

*'Prolapse... became noticeable March 2021. Saw GPs and private consultant, recommended surgery for a grade 3. Explored on internet and with a combination of pessary, Kegels and EVB shorts working towards a less invasive option of getting to a grade 2/1'*

*'I've been wearing the shorts for running and weight training, noticed my hamstring/piriformis issues are almost gone. The moderate leakage ... is completely gone'*

*'Surgery for prolapse not successful: still leaking on exercise: friend recommended EVB which are fantastic for support, can now do kickboxing & walk 10k w confidence'*

*'I have done more exercise during Pandemic, seems to help'*

### 3.2.4. Mental health impact

Many recently delivered women spoke of a negative effect of the pandemic on their mental health.

*'I gave birth during the last lockdown. I had a 4th degree tear which meant I had a follow up appointment with a physio. While she had a good look and did a vaginal exam, I was free to go and only now at nearly 5 months do I realise how traumatic I found the examinations. I had 5 different doctors/surgeons/midwives examine me in the space of an hour...then had to wait an additional hour before going to surgery. A massive trauma...still cry when I think about my immediate after birth experience'*

*'I caught covid whilst giving birth in hospital in January. As my pelvic floor was extremely vulnerable, the severe cough caused significant prolapse of my bladder & rectum. I was very alarmed & could not access help or advice on account of having covid. It had a significant impact on my mental health'*

Women not previously delivered had a different experience. While frustration was evident, only one in five spoke of a negative effect on their mental health, and for a smaller number it was positive.

*'I have a grade 1 prolapse since having two children. During lockdown I have been running to get out of the house, clear my head and escape the children for half an hour'*

*'I have been leaking more and more since I have increased my distance and pace. This is having a detrimental effect on my mental health'*

*'Having more freedom over when and how I exercise, as working from home has made a big difference to managing my prolapse...not having the usual physical stresses of carrying stuff in/out of work and the time of day I exercise. Mentally, feeling in control has helped management of the emotional side of having prolapse. Fewer social events have made it less distressing'*

### 3.2.5. Lifestyle alterations

During the pandemic travel restrictions and particularly lockdown changed people's lives and restricted exercise opportunities. Only one recently delivered woman commented.

*'I had a baby in lockdown and developed an anterior prolapse, the NHS physio team couldn't see me face to face ... Additionally, specialised classes for pelvic restoration were virtual... I used to swim a lot which would have been perfect for my recovery but pools were shut. I'm not sharing this to complain, just to acknowledge it was hard to recover due to the pandemic and whilst many have suffered worse health issues, post-natal health, physical and mental, has definitely been challenging... I have struggled with my symptoms'*

In the group of women not recently delivered almost one in three commented on the impact of lifestyle changes on their pelvic problem. Negative comments mainly concerned increased workload e.g., home schooling, childcare, and cooking, and several mentioned 'juggling'. Positive comments focused on more time for weight loss and exercise with less commuting.

*'The juggle of home schooling plus working, parenting 2 small children and periods of self-isolation...all extra cooking in lockdown... working from home so not as mobile... I was 12-14 hrs/day on my laptop on Zoom or preparing work for my students, all the sitting had a negative effect & worsened my pelvic pain...'*

*'Uncomfortable working out in gym with others present... reduced safe exercise options for prolapse...'*

*'The pandemic brought about more stress, more work when working from home and more bladder issues.'*

*'My bladder weakness quickly got worse when I cut back on strength work — gyms closed'*

*'With covid, gained weight, cannot exercise as aggravates prolapse'*

*'Put on weight & EVB don't fit, totally incontinent now running, must lose weight to be able to wear them again to run...'*

*'In Pandemic took opportunity to lose 1.5stone, & exercise everyday as working from home... has improved bladder control while running, as well as my prolapse'*

*'Been able to go running everyday instead of commuting. Bought an EVB shorts & worked on pelvic floor ... Intend to make it a longterm habit'*

*'I run during lockdown to clear my head & get away from children...'*

*'I have done more exercise during Pandemic, seems to help'*

**Table 3**  
Numbers of women with a preexisting pelvic problem or who recently delivered, and commented on five core themes.

Women who commented n = 70		
Theme	Pre-existing problem	Recently delivered
	54	16
<b>Healthcare access</b>		
n =	11	14
Physiotherapy	8	9
Gynaecology	8	1
GP	1	2
Midwife	–	2
<b>Pelvic Health Physiotherapy</b>		
n =	15	13
No service	–	7
Private	–	3
Telephone	–	4
Saw Physiotherapist	–	2
Instruction by post	–	1
<b>Other Conservative Measures</b>		
n =	28	–
Support shorts	18	–
Pessary	4	–
On-line classes	6	–
Kegel	2	–
Vaginal trainer	1	–
<b>Mental health</b>		
n =	16	8
Positive	4	–
Negative	12	8
<b>Lifestyle Changes</b>		
n =	25	1
Homeworking positive change	7	–
Homeworking negative change	4	–
Closed leisure facilities	7	1
Weight gained	3	–
Weight lost	2	–

## 4. Discussion

### 4.1. Main findings

Apart from being somewhat less likely to gain weight and to exercise during the pandemic which is unsurprising given the impact of infection, the survey found little difference between women who contracted Covid-19, and those who did not. Although sexual dysfunction was not listed as a primary complaint by respondents recovered from Covid infection, it featured either de novo or as a worsening problem in these women. This has not been previously reported, though decreased sexual activity has been observed in studies during the pandemic [10]. Covid-19 is known to be linked to de novo overactive bladder symptoms, thought due to the inflammatory effect of increased urinary cytokines [11,12] and possibly other pelvic organs also undergo similar inflammatory change.

Pregnancy with vaginal delivery is the single greatest factor in pelvic floor pathology, and the postnatal women's comments underline both their vulnerability, and the multidisciplinary requirements of maternity services. Women with longstanding pelvic symptoms tended to have seen a physiotherapist and had established tools for symptom relief, while recently delivered women's needs were acute and largely unmet. This is in the setting where women recognise the importance of the service, and little or no pelvic floor education is known to disadvantage them in the long term [13]. There also was poor access to other healthcare professionals postnatally: the ensuing lack of support had a clear effect on these women's mental health, at a time when anxiety/depression affects 10%–15% within the first 12 months [2,14]. While loss of face-to-face contact and personal avoidance by front-line healthcare staff were valid measures to reduce viral transmission, the change in body language was experienced as a lack of compassion [15,16] and caused distress. Telephone contact was simply not

an adequate substitute for in-person care for these women, as reported elsewhere [2].

Pelvic floor muscle training is first-line treatment for both stress incontinence and genital prolapse [17], and many respondents with a longstanding pelvic issue referred to formal physiotherapy, home core strengthening through online classes, pelvic floor exercises, Kegels or a vaginal trainer. A number used vaginal pessaries or EVB™ shorts for support. Three women had specifically declined an offer of surgery, favouring conservative methods in the first instance. The moratorium on mesh surgery has curtailed surgical interventions, and bed-availability has been reduced by the pandemic. The Cumberlege report [18] reminds us to explore less invasive treatments where available, but plans for a national strategy for Women's Health [19], which recognised the deficits in pelvic health care, have been put on hold during the pandemic. Respondents were surprised to find access to pelvic health therapist difficult, given the number of women who have a vaginal delivery and go on to develop a pelvic floor issue.

Three women used the phrase 'juggling' in relation to their responsibilities during the pandemic. During lockdown, the UK Household Longitudinal Study [20], found women spent more time on unpaid care work than men, and mothers more than fathers changed their employment schedule because of increased childcare commitments. They also found that women who spent long hours on housework and childcare reported increased levels of psychological distress. Our respondents had a more mixed experience of being at home: several used the time gained through not commuting to work as an opportunity for additional exercise, and the enhanced sense of control translated into better wellbeing. Presumably those with small children who could not attend school or creche were impacted more negatively, and several mothers viewed exercise as a critical outlet. That pregnant or delivered women were not as cognisant of lifestyle changes is unsurprising, being less likely to participate in sport.

The tendency overall was towards weight-gain in our respondents: curtailment of movement, particularly with national lockdowns, was partly responsible. Increased sedentariness contributes to increased BMI and has been linked to adverse changes in mental health, particularly in women [21]. Psychological distress is a feature of the pandemic worldwide and the uncertainty and isolation associated with Covid-19, as factors triggering factors in mental health problems, may be a driving factor behind this distress [22].

#### 4.2. Strengths

The qualitative data captured through the free text box is the main strength of this study. Through ‘telling your story’ subjects are free to report what is important to them in their own words. The part played by women’s voices in delivery of obstetric and gynaecological care has been recognised [23]. Qualitative methods help us to “enter the world of its participants” [24] and free text response is a rich source of data suitable for content, thematic and narrative analysis [25].

#### 4.3. Limitations

Because this research was conducted through the internet, there is a recognised bias towards younger, more computer-literate respondents, and the EVB™ website attracts women who exercise and enjoy sport. Further, as the prerequisite for participation in the survey was a pelvic ‘condition’, the findings are not generalisable to women in general.

#### 4.4. Interpretation

Worldwide, the pandemic has seen nonurgent/quality-of life care such as urogynaecology [1,26] severely curtailed. In June 2020, the RCOG published a framework for care in response to COVID-19 [23] detailing the withdrawal of much elective care over previous months and anticipating the frustration and suffering as waiting lists grew. Commenting that urogynaecology had probably suffered the greatest reduction in activity they noted it would likely be the last service to be reinstated. This study confirms these predictions, capturing the suffering by women with pelvic dysfunction resulting from reduced access to healthcare in the pandemic.

The number of respondents referring to the positive effects of exercise on mental wellbeing was notable. There is mounting evidence suggesting that exercise and physical activity interventions affect physical and mental-health outcomes positively [27] and increasing calls for healthcare providers to formally prescribe exercise [28]

### 5. Conclusion

Healthcare continues to face uncertainty in the aftermath of Covid-19, and the paucity of services for pelvic health dysfunction has been further exposed by the pandemic. Our survey underlines the importance women ascribe to exercise for their pelvic floor health: it also emphasises the role of exercise in stress relief and how pelvic floor dysfunction can adversely affect mental health through limiting exercise. There have been calls for enhanced care and support for women postnatally [2] and our study shows that pelvic health is an important component of this. The finding of sexual dysfunction as part of recovery from Covid-19 infection merits further exploration.

#### Declaration of competing interest

One or more of the authors of this paper have disclosed potential or pertinent conflicts of interest, which may include receipt of payment, either direct or indirect, institutional support, or association with an entity in the biomedical field which may be perceived to have potential conflict of interest with this work. For full disclosure statements refer to <https://doi.org/10.1016/j.cont.2022.100012>. Maire Milner reports administrative support was provided by EVB Sport Shorts Ltd. Maire Milner is medical advisor to EVB™ which she conducts on a pro bono basis.

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