


BMJ Open Understanding patients' emotional well-being, perceptions and concerns during an unprecedented deferment of arthroplasty: an Italian qualitative study

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ABSTRACT

Objectives Nearly 40 000 Italian patients had their arthroplasty postponed between March and May 2020 (lockdown period) and experienced a period of several months without knowing when surgeries would resume. The hypothesis was that such conditions caused changes in perceived well-being and quality of life. The study aimed to explore the feelings, perceptions and concerns of orthopaedic patients in Italy during COVID-related arthroplasty rescheduling.

Design The study designed by an interdisciplinary research group, used a qualitative methodology based on thematic analysis of semi-structured interviews.

Setting Interviews were conducted by phone from August to November 2021.

Participants A purposive sample of orthopaedic patients (from North, Centre and South of Italy), whose elective arthroplasty was delayed due to the COVID-related healthcare measures, was selected. Patients who opted for further voluntary deferment were included. Participants were mainly recruited through orthopaedic surgeons.

Results We conducted and analysed 26 interviews (12 males and 14 females; age range 50–85 years). We identified six themes describing negative feelings, deterioration of quality of life, resources behind coping strategies associated with surgery postponement and lockdowns. A psychosocial phenomenon we called the 'lockdown paradox' was detected. It was induced by the general condition of isolation at home that made orthopaedic patients share restricted mobility with all the people in the country and, therefore, suffer less.

Conclusions Arthroplasty suspension in the context of anti-COVID measures had implications on emotional well-being and perceived quality of life. Deterioration appeared mitigated by inner resources, favourable living conditions and, in some cases, by the psychosocial phenomenon, not detected in other studies, of the 'lockdown paradox' associated with mobility and autonomy restrictions shared by the whole community. Future studies are needed to investigate predictors of negative feelings and deterioration of quality of life in patients experiencing sudden major surgery delays.

STRENGTHS AND LIMITATIONS OF THE STUDY

- ⇒ In-depth semi-structured interviews together with open-ended questions provided an optimal opportunity for exploring human dimensions of the broad phenomenon of surgery deferment due to the COVID-19 pandemic and related surgery rescheduling.
- ⇒ Balance of the participants' sample in terms of region of residence, sex, age, diversity of living conditions (urban vs rural, detached house vs flat, living alone vs living with family).
- ⇒ Thorough exploration of the salient characteristics of orthopaedic patients' lived experience applying thematic analysis.
- ⇒ The study has the limitations of exploratory qualitative research and its results cannot be generalised to the whole Italian population of surgery patients.
- ⇒ Participants were mainly recruited by surgeons from their generally collaborative patient networks, which may have introduced a selection bias.

INTRODUCTION

Italy was the first European country to face the COVID-19 pandemic and one of the countries most strongly affected by it.^{1 2} In March 2020, elective surgeries were suspended in most public and private hospitals of the Italian National Health Service to cope with the pandemic emergency. In 2019, more than 200 000 arthroplasties (hip, knee, shoulder and ankle) were performed in the country, including more than 160 000 elective (ie, planned) surgeries.³ In April 2020, a dramatic decrease of 84.5% in elective arthroplasties was registered compared with the average amount recorded in the same month in 2018 and 2019.⁴ It can, therefore, be estimated that in only 3 months, from March to May 2020, approximately 40 000 patients might have had their arthroplasty postponed, experiencing quite a long period without knowing when surgery would resume. Since

May 2020, after a gradual reopening, surgeries have been performed at a reduced pace for several months. Further elective surgery interruptions took place in some Italian regions during the winter 2020–2021; these interruptions considerably contributed to the overall increase in the number of surgery postponements, potentially increasing the difficulty faced by patients.

Furthermore, the problem of surgical delay persisted due to the impact of COVID-19-related postponement on waiting lists, and also due to the growth of the demand for arthroplasties worldwide. One modelling study estimated that, in an optimistic scenario, in the United States there will still be a cumulative backlog of >1 million surgical cases at two years after the end of elective arthroplasty deferment.⁵ Another study estimated that up to 6.3 million arthroplasties might have been cancelled or postponed worldwide during the 12-week peak of the COVID-19 pandemic,⁶ and the burden on waiting lists would continue for several years.

These data and perspectives encouraged the conduct of this qualitative study. It investigates patients' lived experiences and feelings, perceived quality of life, concerns and opinions during rescheduling of their arthroplasty in Italy in 2020, related to an unprecedented event, such as the COVID-19 pandemic, which has similarly hampered healthcare systems worldwide.⁷

The research question of this exploratory study was: what did orthopaedic patients experience and how did they feel when their planned arthroplasty was deferred due to the anti-COVID-19 measures adopted in the country?

The key objective was to give voice to the arthroplasty patients through a series of interviews and to gain specific knowledge of their needs and concerns that would otherwise be difficult to obtain through survey-based methods. The study aimed to meet an ethical commitment to patients and to provide information for better healthcare management.

DATA AND METHODS

Study design

For the purpose of this research, a multidisciplinary research group was established in 2021 by the Italian Arthroplasty Registry (Registro Italiano ArtroProtesi, RIAP) at the Italian National Institute of Health (Istituto Superiore di Sanità, ISS). The study included a PhD researcher in communication sciences (IU), a sociologist researcher in public health and bioethics (VT), an orthopaedic registry expert (MT), a researcher in epidemiology (PC) and a clinical psychologist (MTe).

Eight orthopaedic surgeons from different macro-areas of Italy and members of the RIAP Scientific Committee were invited to collaborate. They contributed to the study by: (1) recruiting participants among their patients, (2) providing the research group with information on COVID-related arthroplasty reprogramming in their

regions, (3) providing suggestions for the development of the interview topics and (4) checking the interview guide.

The study was conducted on a purposive sample of patients whose elective arthroplasty was postponed to an indefinite date. Following Longhurst⁸ and Jamshed,⁹ in-depth semi-structured interviews were used, enriched with probing and open follow-up questions, as a suitable method of data collection given the context of little-explored personal implications of surgery delay due to the COVID-19 emergency. Thematic analysis as described by Braun and Clarke¹⁰ and Boyatzis¹¹ was used. Given the exploratory nature of this study, we worked with the semantic rather than with the latent content of the data. A combined deductive and inductive approach to data coding was applied.¹²

Interview guide

An interview guide¹³ was developed (online supplemental material 1). Topics were identified based on informal interviews with the involved surgeons, previous studies¹⁴ and professional knowledge of the research group.

The questions fell into four main domains, addressing specifically (a) the framework of the patient's situation in relation to the surgery planning; (b) communication between the patient and the healthcare professionals (regarding, for instance, how the news of the cancellation was communicated and how the patient was supported during the waiting period); (c) emotions and feelings related to the suspended situation and (d) perceptions and opinions on changes in quality of life and personal/societal consequences of COVID-19-related surgery reprogramming. About one-half of the questions were open-ended.

Questions from domains (a) and (b) helped to clarify the context, while those from domains (c) and (d) addressed key objectives of the study. Some questions in the interview guide varied according to the differentiation of the respondents into those who had voluntarily deferred the surgery and those who had the surgery deferred involuntarily.

According to Kallio *et al.*,¹³ the interview guide was first discussed within the research group and then checked by the surgeons, as external collaborating experts.

After the first two interviews, the order of the questions was slightly adjusted.

Participant recruitment

Drawing on the literature, the minimum number of interviews needed to fulfil the research objective was considered to be 15.^{15 16} We aimed to balance the sample in terms of: sex; geographical residence including all macro-areas of Italy (North, Centre and South); type of hospital (public and private) that deferred the surgery. The main recruitment criterion was the postponement of an arthroplasty experienced by the patient due to COVID-19-related emergency hospital re-organisation.

Participants were recruited using several sources, but mainly through the eight orthopaedic surgeons involved

in the research group. They directly contacted their patients outlining the aim of the study, the commitment needed to participate and personal data protection policy. The National Association of People with Rheumatological and Rare Diseases also shared a call for participation, including a series of posts in its patient group chats on social media. Finally, our research institution published an invitation on its social media accounts.

Ethical issues and personal data protection procedures

The protocol of the study, with a privacy-by-design approach, was approved by the ISS Ethics Committee on 19 July 2021. To meet COVID-19-related limitations and guarantee a high level of privacy to the participants, we opted for telephone interviews rather than face-to-face interviews. Video-conferencing tools were not used to avoid discouraging older participants or those who might be less comfortable with this technology. Potential participants provided consent to transfer their contact details to the interviewer during informal talks with their surgeons. Informed consent procedures were designed according to the ethics requirements for research with human beings, addressed by the Helsinki Declaration.¹⁷ Informed consent was administered verbally over the phone to potential participants before the interview and was officially documented. Participants' gender, age-range and area of residence were the only data recorded during the interviews, transcripts were kept anonymised. After the data were subjected to quality control and analysis, the audio recordings of the interviews were destroyed.

Interviews

Participants were first contacted by telephone to organise the time and place of the telephone interview so that they could be relaxed, concentrated, and undisturbed. Participants were at home at the time of the interview, mostly alone; in rare cases, their spouse or family members were present.

The interviews unfolded in a conversational manner, with a flexible sequence of questions. Open-ended questions allowed for a free narrative (eg, 'Tell me about your waiting period: how did you live it?'; 'As you said you felt uncertainty or insecurity, what caused it? And how did you feel?'; 'What was the most emotionally difficult thing to cope with during that waiting period?'). Follow-up questions were allowed to elicit pertinent information on the motivation or reasoning behind the claims and reported past behaviours. Participants were free to interpret the concepts (eg, 'quality of life') and were prompted only when they clearly asked the interviewer for clarification. The interview duration ranged from 25 to 45 min. All interviews were conducted from August to November 2021. The interviews were audio recorded. Field notes were taken on behavioural signs and were then included in the transcription as side remarks ('pause', 'laughs', 'sighs'). NVivo Transcription software (version 12.1)¹⁸ was used for initial audio-to-text 'verbatim' transcription, with further manual correction.

Data analysis

A grid was designed to support the analysis of transcripts (online supplemental material 2). Three researchers (IU, VT and PC) independently analysed the transcripts using this grid. To minimise the interpretation bias, only explicit content was considered. Unique opinions/concerns/emotions (ie, expressed by only one participant) that added significant concepts were also considered. Initial codes populated the grid. Subsequently, using an inductive approach, each researcher could add new codes from the analysis of the interviews. Each code was supported by illustrative quotes and the researcher's comments. The individual grids were compared in order to reach the consensus on the interpretation of the codes assigned by each researcher. Disagreements were analysed by MT and resolved in three face-to-face meetings between the researchers. Finally, MTe supervised the interpretation and final organisation of the codes and assessed their consistency. During the analysis, the participants were divided into two groups in order to identify differences in opinions and concerns: those who had their arthroplasty involuntarily deferred to an unspecified date and those who opted for a voluntary deferment even after the resumption of elective surgery, regardless of the reason (eg, until vaccination or until the end of the COVID-19 pandemic). The codes were then analysed to identify the patterns of meaning which were transformed into preliminary themes after consensus was reached and condensed into final themes. The final themes were agreed upon in the process of conceptual interpretation of the phenomenon under study.

Trustworthiness of the study

Trustworthiness and rigour of the findings¹⁹ were ensured as follows. For credibility, the three researchers IU, VT and PC performed a prolonged engagement with the collected data (interview voice records and transcripts), repetitive reflection on data and constant researcher triangulation. When discrepancies emerged, a further researcher (MT) was engaged in soliciting discussion to reach consensus. To ensure transferability, readers are provided with detailed description of the study design (including criteria for purposive sampling) and of all the features of each phase of the study, thick description of the interview context and discussion on findings and perspectives. For dependability, rigorous procedures during each phase of the analysis were adopted, the consolidated criteria for reporting qualitative research (COREQ) rules were followed²⁰ and working files as well as detailed analysis outputs are provided as supplementary materials (see online supplemental files 1–3). For confirmability, the reasons for methodological and analytical choices, agreed upon among the researchers, were included in the manuscript. To add to trustworthiness is the authors' independence from any surgery activity, being they researchers of a public research institute.

RESULTS

We received the contact details for 39 eligible patients. After the exclusion of those who were constantly out of

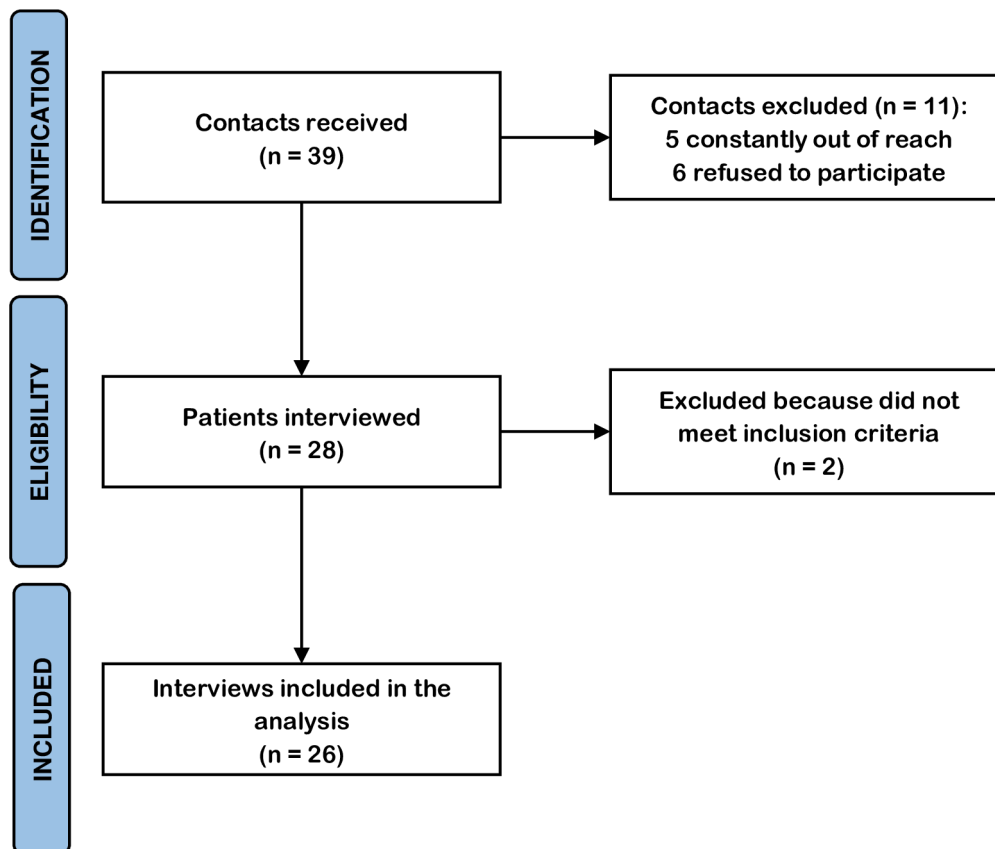


Figure 1 Contact-to-Interview data. A flow diagram.

reach and those who declined to participate (three of whom had misunderstood the aim of the interview as explained by the surgeon; five of six refusals were from the South/Sicily), 28 interviews were conducted. Two participants did not fully meet the criteria: one had only a preliminary diagnostic procedure delayed, not a surgery; and the other had a normal waiting period, not impacted by the elective surgery deferment. Nonetheless, these interviews were conducted for ethical reasons (respecting the participant's will to be interviewed) and for a better understanding of the context, but were then excluded from the analysis. [Figure 1](#) summarises this process.

Twenty-six interviews were analysed. A total of 12 males and 14 females were included in 8 age groups from all macro-areas of Italy (North, Centre and South). They reported a period, ranging from 1 to 20 months, of delay in arthroplasty with respect to the originally scheduled surgery date; 2 participants had still deferred the intervention at the time of the interview ([table 1](#)).

Key findings

Six themes were identified regarding the patients' lived experience in the situation of arthroplasty deferment (both voluntary and involuntary) during the COVID-19 emergency. [Figure 2](#) represents the interrelation of these themes.

[Table 2](#) summarises the key findings of our study, the identified themes and a choice of the most relevant

illustrative quotations (verbatim). The six themes are described in the following paragraphs.

Negative emotional state due to the deferment and lockdown

Approximately half of the participants claimed to have experienced *emotional discomfort* caused by the surgery deferment. The core element of it was their experience of *uncertainty* and *insecurity*. The causes were (1) overall situation and lockdown restrictions, (2) not knowing the new date of the surgery and the impossibility of planning it, (3) doubts about whether to undergo the surgery at all, and when and (4) uncertain outcomes of the surgery in terms of general health and joint mobility and, therefore, possible physical limitations. *Anxiety* and *worry* were reported both by those claiming to be generally anxious and by those who underlined that this emotion was not typical of them. The experience of *fear* was also reported, related to either the surgery process and its possible outcome, or the risk of contracting COVID-19. *Anger* seems to be related to the impossibility of living a normal life or to the perception of an unjustified delay of a long-needed surgery ('I continued to live with severe pains and the anger of not being able to solve' [F, 75–79, Centre]).

Feeling forgotten, abandoned was associated in the patients' narratives with the lack of support from the healthcare system in general (not from the surgeon or the hospital) and with the lack of family contact during the lockdown. A few interviewees revealed that they *felt isolated* mostly

Table 1 Participant characteristics

	N	Involuntary deferment of elective surgery, N	Voluntary deferment of elective surgery, N
Sex			
Male	12	10	2
Female	14	9	5
Total	26	19	7
Age range*			
20–24	1	1	
35–39	1		1
50–54	5	3	2
55–59	2	2	
60–64	2	2	
65–69	1	1	
70–74	10	8	2
80–84	4	2	2
Area of residence			
North	11	11	
Centre	11	7	4
South	4	1	3
Already had the surgery by the time of the interview			
Yes	24	19	5
Still waiting	2		2
Average waiting period (months)		5.5	10.8
*only rows with nonzero content are represented			

due to the lockdown. However, they supposed that many people still had feelings of isolation, loneliness or solitude even after the lockdown was lifted.

Life ‘on a pause’

Participants recalled uncomfortable feelings because of the sensation of ‘suspended life’, *disorientation* and because they did not recognise the reality in which they were living (‘We were all as if catapulted into a new dimension’ [F, 70–74, South]). Some felt the time pressure and perceived that period of deferment as *lost time to recover from pain* (...I had no more time to spend...From January until August [2021] I called (the hospital) almost once every two weeks...’ [M, 20–24, North]). On the contrary, some participants recalled their waiting time as a quiet and peaceful period of *waiting with patience*, especially in the age groups over 70. They were aware of a possible joint deterioration over time, but they did not perceive ‘life on a pause’ as problematic.

Deterioration in the quality of life

Participants were conscious of a general deterioration of the quality of life during the waiting period, for one or a combination of these reasons: increased pain and physical limitations, the lockdown in itself, or the

general situation of prolonged waiting and uncertainty. They addressed both physical and emotional worsening focusing, in particular, on the exhausting waiting time. A reported deterioration of quality of life was also associated with a perceived deterioration of the joint to be operated on during the waiting period, with not being able to move freely due to the anti-COVID measures, and/or to see one’s family members (‘Before, I used to look after my grandson who then I could no longer see, if only on video call’ [F, 70–74 Centre]).

Inner resources and attitudes for coping with the deferment and the lockdown

Self-regulation techniques and *self-discipline* were described as strategies to face deferment and the consequences of lockdown measures. For some interviewees, *hope* for a painless surgery and a good outcome, *optimism*, *peacefulness*, *altruism* and *sense of humour* were reported as driving forces that helped to live through the difficult period of time. *Faith* was reported by some participants; the practice of praying seemed to have empowered them to cope with the situation. Other resources that emerged from the interviews were *trust* and *confidence* shown first and foremost in relation to the surgeons, but also to the national healthcare service in general. Most interviewees believed that they had been *treated fairly and equally* regarding the rescheduling of the intervention: ‘Yes, because the hospital was also involved in the pandemic (...) I assume this (the deferment) was a way to safeguard my safety and health as well’ (F, 50–54, North). Often a rational approach emerged, described as ‘*adopting a philosophical approach*’, or ‘*trying to think logically*’, detected in particular in participants who were healthcare professionals themselves. *Readiness to take a risk* was manifested in the decision to accept a new surgery date or to stop postponing surgery voluntarily and enter a hospital, despite the ongoing pandemic and fears: ‘Yes, I was (afraid of contagion), but when the medical staff took precautions, even though they could not guarantee everything, I calmed down (...). In my opinion we have to find a balance between the two things, there is not only COVID’ (F, 75–79, Centre).

Impact of living conditions, economic resources and human relationships

Some participants considered themselves *privileged* and/or *lucky* because of their living or working conditions or economic status (eg, access to a private insurance that provided wider choices in scheduling the intervention). Some interviewees mentioned that they were used to living alone and felt comfortable to be at home.

The lived environment and personal relationships played a key role in bearing both negative feelings and in coping capacity during the waiting period. ‘Strong ties with family’ in some cases alleviated the isolation, whereas in other cases caused suffering for the impossibility to see one’s relatives or the reluctance to accept staying alone in the hospital ward as required by the COVID-19 protocols.

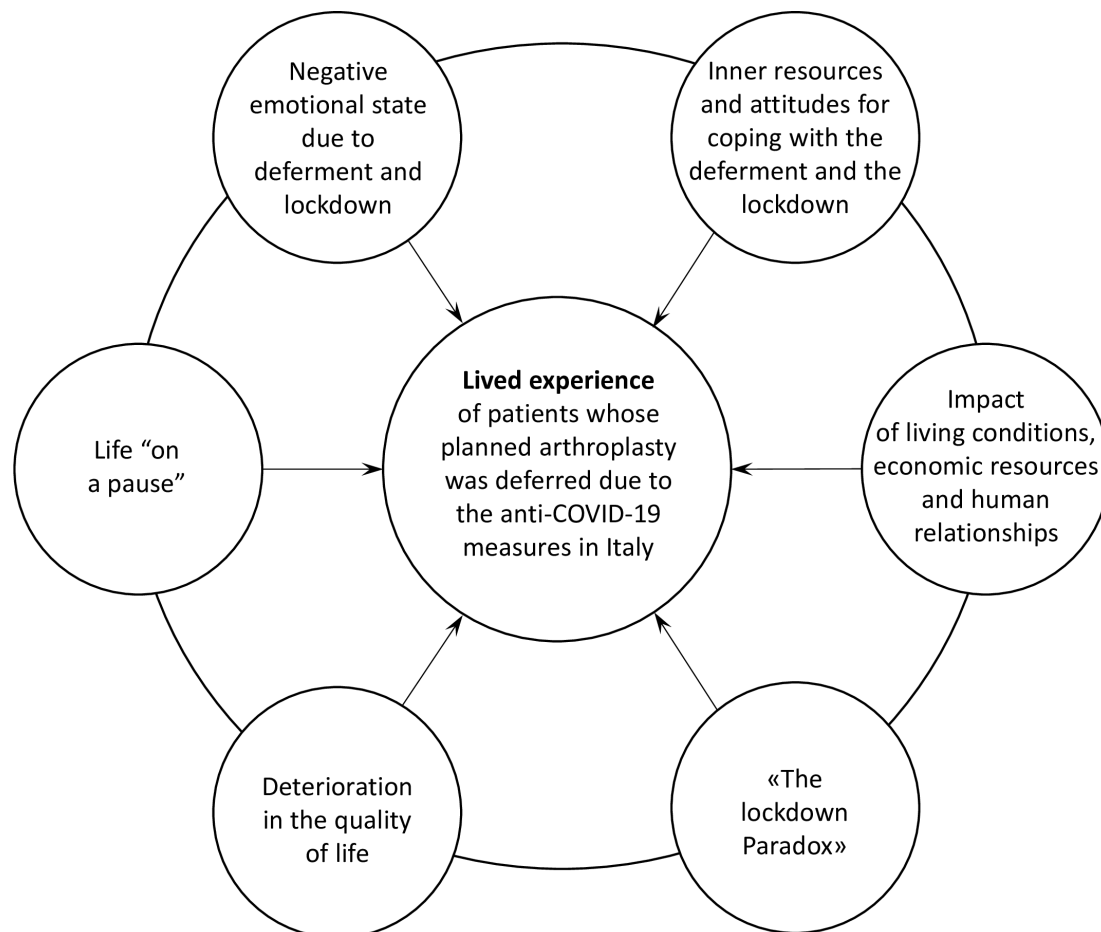


Figure 2 Interrelation of the identified themes.

Connection with friends, neighbours, ‘solidarity relationships’ helped much: ‘I am lucky to be friends with a female who lives on the same floor as me. In addition, to go out (during the lockdown) we would go over the terrace of our apartment building and because it is quite big, we used to have a walk around the terrace (laughs)’ (F, 75–79, Centre).

Housing conditions played an important role, in terms of urban or rural context, own house or apartment, living alone or with others. Participants *living in rural areas* or small villages, with the possibility of going out and walking in the countryside even during the lockdown, and/or having a private garden, described the waiting period during the lockdown as bearable and sometimes even pleasant, in contrast to those ‘locked’ in big city apartments. *Living with a spouse or children*, for older people, was a guarantee of the necessary assistance, at least in an emergency case, and was reassuring. In participants’ narratives, this was rarely taken for granted, but rather emphasised with gratitude.

Those who continued *working* or were involved in *volunteering* focused less on the deferred surgery. In some cases, workers could move freely during the lockdown phase, and this distracted them from thinking about the surgery.

Availability of medical care and advice was perceived as important. Most participants had the direct telephone

numbers of their surgeon’s office or the surgeon himself; the same occurred with the family doctor they had known for many years and with whom they had established a warm relationship. They felt reassured by this proximity and the possibility to call their surgeon or the hospital at any time: ‘(Not knowing the date when the surgery would be done) did not bother me also because I was sure that if I had more serious problems, I would go to the emergency ward or to the orthopaedist. Surely, I would have found a solution. But since it was no longer that condition (of pain) it was not the case to make... terrorism (laughs)’ (M, 55–59, North). The contact with family doctor was maintained in cases where analgesics needed to be prescribed.

The ‘Lockdown Paradox’

In some interviews, the negative impact of the surgery deferment seemed to be relieved by the lockdown restrictions. We named this phenomenon the ‘*lockdown paradox*’: the shared condition of isolation made orthopaedic patients awaiting the deferred arthroplasty feel the same as all other people and therefore suffer less. Some participants coped better with the burden of the indefinite waiting of the surgery because this ‘*suspended life*’ was shared by the whole community: ‘I couldn’t move due to the sore hip but nobody else could move either

Table 2 Key findings: themes with relevant codes and illustrative quotations

Theme	Code	Quotation
Negative emotional state due to deferment and lockdown	Emotional discomfort	'I had already done a certain psychological self-training (to prepare for the surgery), and after that—the decision to freeze everything, yes it was a discomfort' (F, 50–54, Centre)
	Anxiety	'After deciding in favour of the intervention, I started suffering again from anxiety due to its suspension... Be ready and then wait again with negative thoughts coming to mind...' (F, 75–79, Centre)
	Uncertainty, insecurity	'(I felt) insecurity if this thing (COVID-19) would end in 2 months, in two years or I do not know when, or if then they would tell me everything was closed and we moved your name to another institution... all these things came to mind' (M, 20–24, North)
	Feeling isolated, loneliness	'Now my company is just television and a few books, a bit of crossword puzzles, and you know it's not nice to spend the day like that. (...) Isolated completely because of COVID (lockdown), because I don't dare to go out...' (F, 70–74, South)
	Fear	'I prayed that nothing acute would occur to me (during the waiting period)' (F, 50–54, Centre)
	Feeling forgotten, abandoned	'With this hustle and bustle of the virus, relatives and friends were like afraid of making even a phone call, unfortunately...' (F, 70–74, South)
Life 'on a pause'	Sensation of 'suspended life'	'It was uncomfortable being suspended, without any certainty of what to do' (F, 75–79, Centre)
	Lost time to recover from pain	'I am going through these pains without having done anything yet, this time that is passing is time lost' (F, 70–74, South)
	Waiting with patience	'I waited patiently, tried to fill my time with hobbies, with reading. I was waiting until my time came' (M, 70–74, North)
Deterioration in the quality of life	Consciousness of deterioration due to the lockdown	'We have all experienced a deterioration in the quality of life' (M, 65–69, South)
	Physical and emotional worsening, due to prolonged waiting and uncertainty	'It was a physical deterioration, the quality of life in the physical sense, but also a little bit emotional. Every Monday I got up in the morning and hoped—because usually these calls happen on Mondays—around 9am until 11am I had to be very sure that the phone was not muted. It didn't happen, and on Tuesday, Wednesday I would go on thinking: whatever, let's wait until next Monday' (M, 20–24, North)

Continued

Table 2 Continued

Theme	Code	Quotation
Inner resources and attitudes for coping with the deferment and the lockdown	Self-regulation	'(Against anxiety I use) conscious breathing, it is called rebirthing, it is a circular breathing technique. (Helps) very much' (F, 50–54, North)
	Self-discipline	'I have a character that... I have faced so many things. (...) Many times (in the past) I got up in the morning, I looked at myself in the mirror, I even slapped myself: it is your task. (...) Even in that period (of waiting for the surgery) I did not suffer of fear or anxiety' (F, 75–79, Centre)
	Hope	'The only thing that sustained me was hope that something would improve and that we would go to surgery. After the surgery, I hoped to recover in less time. However, after thirteen months I'm still here, so I hope it will get better, but I do not know' (F, 60–64, North)
	Optimism	'I am a fairly positive person. That helped me. I have always thought things begin and then end too, like the cycle of life' (F, 50–54, Centre)
	Peacefulness	'I waited for my operation peacefully, let us say. (...) I was determined to do it so I was serene until the last moment' (F, 70–74, North)
	Altruism	'...I was worried more for the general condition of people, that was much more dramatic, than for my hip...' (F, 70–74, Centre)
	Sense of humour	'They tell me I'm a granny-sprint! Not so much now, with all these broken bones (laughs). Because I am still youthful in spirit' (F, 70–74, South)
Impact of living conditions, economic resources and human relationships	Faith	'...I always asked God to help me and obviously he'd always help me...' (F, 75–79, Centre)
	Positive influence of living in the countryside	'Fortunately, the area where we live is a hilly, mountainous area; not living in the city, I did not experience the lockdown so anxiously' (M, 55–59, North)
	Good neighbourhood relations	'From the point of view of psychological support from friends and acquaintances, even neighbours, I have never had any problems; in contrast, I have consolidated those relationships of solidarity with people who have always been close to me' (M, 70–74, North)
	Access to private insurance	'I consider myself a lucky guy, I had the choice in this as in other fields...Also lucky to have access to private insurance' (M, 65–69, South)
'Lockdown paradox'	Positive influence of living with family	'I have always been blessed to have a quiet life, to have an absolutely peaceful relationship at home with both wife and children. I have been lucky' (M, 80–84, North)
	Comfort from shared condition of isolation	'They were at home, I was at home too. If I had to stand at the window and watch everyone walk, do things, maybe I would have been a bit more upset' (F, 60–64, North)
	Sharing misfortune	'It's like the saying 'the misfortune of life shared with others is less misfortune' (F, 75–79, Centre)
	Easier to cope with being sick when all the others stay at home too	'The fact of being sick and not being able to walk and having to stay at home anyway because of the lockdown—it honestly weighed less on me' (F, 60–64, North)

(due to the lockdown)' (F, 70–74, Centre). The universal and insurmountable cause of the general problem shared by so many individuals made it more bearable.

In some cases, when not associated with acute pain, the thought of a postponed surgery became overshadowed by the pandemic: 'Let us say that I put the thought of the

intervention a little aside because there were situations that were certainly more onerous, more important' (M, 55–59, North).

DISCUSSION

The vast and nuanced narratives that were obtained and the method adopted allowed us to identify codes and generate themes that form a meaningful representation of personal dimension of the pandemic-related surgery delay. The response to our research question is shaped by six themes outlining the patients' lived experience: the study participants experienced deferment-related negative emotional state and deterioration of quality of life; they perceived life as if 'on a pause'; their coping strategies were based on inner resources and attitudes; at the same time, their living conditions impacted their lived experience of that period; overlap of the waiting period with the national lockdown resulted in a 'lockdown paradox'.

Reflecting on the method, it is to note that, although there was no previous contact or relationship between the interviewer and interviewees, the interaction between them may have influenced the degree to which the interviewees opened themselves. However, the interviewer aimed to conduct the interviews with fairness to favour confidence and to ease the interviewees into the conversation.

The measures to ensure trustworthiness and rigour described in the Methods section were followed and reflected on through all stages of the study. As this research is focused on an unprecedented emergency situation, studies in different contexts of surgery deferment might need new framing and different features of the study design to guarantee the trustworthiness.

The findings of our study highlight the following aspects as the most emotionally difficult experienced by the patients during the waiting period: the lack of personal freedom due to the lockdown; a need to reorganise the routine; impossibility to see one's family, especially grandchildren; worsened physical conditions (ie, restricted mobility, intense pain, loss of sleep); worries about the surgical process and its outcome; alternation of hope and disappointment: a general uncertainty regarding the future.

Findings reflect the experience of both patient subgroups—those deferring the arthroplasty voluntarily and involuntarily. However, in general, those who voluntarily postponed surgery reported having lived the waiting period more peacefully, also because it was their own decision. Their waiting period did not necessarily overlap with the lockdown, allowing them to live close to normality. Being worried about possible contagion in the hospital was among the major reasons for voluntarily deferring the arthroplasty. Other reported reasons behind the decision to postpone were exclusive and complete trust in a specific surgeon, reluctance to stay alone in the hospital ward, and family-related concerns. At the time elective surgery resumed (May–June 2020), some patients still

preferred to take a summer pause and to get back in touch with the hospital when returning from holidays in early September, a well-known Italian cultural factor.

As shown in previous studies, surgery deferment in orthopaedic patients has a heavy impact on health outcomes such as decreased joint function^{21 22} and physical function,²¹ significant increase of pain^{21–23} leading to increased analgesic use,²³ and overall negative impact on physical and emotional health²⁴ and may, in general, worsen the quality of life.²⁵

Quarantine and lockdown as causes of strong negative emotions in individuals are well documented,²⁶ and, particularly, patients suffering from various diseases are those most severely affected by social restrictions. With respect to patients' response to COVID-related surgery postponement, physical aspects such as increased physical pain were the first to be studied, and this line of research is now plentiful.^{21 22 27} Emotional well-being has also been studied, mostly in terms of mental well-being, often with questionnaire-based surveys only,^{23 24 28} whereas perceptions, attitudes and lived experiences of patients are much less studied. We tried to highlight these elements in the ethical framework of a patient-centred perspective.²⁹

The fact that three macro-areas of the country were well represented in the study was advantageous because the North and the South of Italy differ in many ways, including individual behavioural patterns in healthcare. For example, interregional healthcare mobility almost uniquely affects the southern regions.³⁰ Participants living in the North more often reported that they had been at peace with themselves and with the general situation, whereas anxiety, worry and fear of bad surgical outcomes or postponement and concern for their family during the pandemic seemed to have impacted to a greater extent those patients living in the South.

Our results confirm various findings of previous studies with a similar focus that showed how the delay in intervention due to the pandemic and the uncertainty about the rescheduling of surgery have entailed psychological implications and deterioration of quality of life,^{7 23 28 31} together with increased anxiety and other negative feelings, such as emotional discomfort in orthopaedic patients.^{24 28 32 33}

Furthermore, similar to what Kopka and colleagues³⁴ observed, females in the study were more likely to report negative emotions (anxiety, concern and frustration), suggesting that they are more likely to overtly express distress and emotion with respect to males, probably due, in part, to societal gender norms.

It is important to highlight that in a large-scale study in the United Kingdom,³³ patients understood that procedure disruption was caused by COVID-19 but were nonetheless disappointed by that. In our study, an overwhelming majority of participants claimed their understanding of the measures and believed that they had been treated fairly and equally by the healthcare system, but not in all cases did this understanding fully comfort them. Furthermore, voluntary postponement of surgery (eg, until the end of the pandemic) chosen by a minority of



individuals was also consistent with the results of other investigations²¹ showing that, in some cases, although rare, persons in an alarming situation may autonomously decide about their health, disregarding public medical advice. Furthermore, our findings support the claim that when surgery is considered 'elective', this does not imply an indefinite time tolerance for its delay.³⁵

To our knowledge, this study is currently one of the first of its kind in Italy to explore with a qualitative method feelings, perceptions and opinions of patients whose arthroplasty was suspended during the COVID-19 lockdowns. The research may contribute to exploring individual dimensions in patient-centred perspective. It also provides the context for existing quantitative research in this field. However, this study has the limitations of exploratory qualitative research, and its results cannot be generalised to the whole Italian population of surgery patients; furthermore, because the participants were recruited mainly by surgeons among their generally collaborative patient networks, the procedure may have introduced selection bias.

We identified a few individual and social factors deserving further investigation. They include the role of character or personality, often emphasised by the storytelling in our study, as key factors when coping with difficulties; the impact of different living conditions (eg, rural vs urban environment; living alone vs living with family) on the general well-being of the interviewees; the value of solidarity in bearing the waiting period; and one of the most interesting pieces of evidence that we have addressed as the 'lockdown paradox'. This theme captures a psychosocial phenomenon when the mobility ban and heavily reduced social life allow patients to more easily bear their physical limitations perceived as a shared constrain. As complicated as the public healthcare situation might have been, sharing it with everybody around contributed to alleviating personal psychological burden and augmenting resilience.

Our findings highlight the central role of communication between the public healthcare system and patients, although in this study the related information was only collected to contextualise the narratives. Mediating the claim by Carr *et al.*³⁶: governments should develop communication strategies that address patients' concerns and misconceptions about the risk of developing diseases and provide information they can truly understand and trust.

Furthermore, future studies can draw on our findings to study possible predictors of negative feelings and deterioration of perceived quality of life in patients experiencing a sudden delay of major surgery due to any potential hazard for society and healthcare systems. It is, in fact, conceivable that the persistence of long waiting lists in elective surgery might contribute to the progressive deterioration of patient well-being and thus represents an ethical issue.³⁷ Policy makers and clinicians are encouraged to evaluate the impact of prolonged surgery deferment on the general health status of patients and to introduce measures to mitigate its effects. In Italy,

the Recovery and Resilience plan,³⁸ which guides public health reorganisation according to the Next Generation EU framework, sees the patient role as paramount. Understanding patients' emotional well-being and needs and their perception of a situation of uncertainty might favour the improvement of policy making in public health, thus benefiting the quality of care.

CONCLUSIONS

Findings revealed a wide range of negative feelings, deterioration of emotional state and of quality of life related to surgery postponement in the context of the anti-COVID-19 measures. Deterioration appeared mitigated by inner resources, favourable living conditions and, in some cases, by a psychosocial phenomenon, not detected in other studies, we have called the 'lockdown paradox'. This phenomenon reflected the shared mobility restriction of the whole community, making orthopedic patients, despite their disability, feel in the same conditions as all others. Studies on larger samples are needed to investigate the predictors of negative feelings and deterioration of perceived quality of life in patients experiencing a sudden delay of a major surgery. The role of communication between the healthcare system and patients should also be explored to make the waiting period less uncertain and less impacting.

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