Infection control in the home: A qualitative study exploring perceptions and experiences of adhering to protective behaviours in the household during the COVID-19 pandemic

Kate Morton*, Lauren Towler*, Julia Groot, Sascha Miller, Ben Ainsworth, James Denison-Day, Cathy Rice, Jennifer Bostock, Paul Little, & Lucy Yardley

* Joint first authors

Abstract

Background: Recommended behaviours to protect against COVID-19 in the home include cleaning, handwashing, physical distancing, spending time in your own room and wearing a face-covering when in close proximity to people. Evidence is accumulating that following these behaviours can help protect against COVID-19, but adherence is mixed. This study sought to understand people's perceptions of following these protective behaviours in the home.

Methods: Nine participants were interviewed by telephone about their perceptions of the COVID-19 pandemic and their experiences of protecting themselves at home. Most participants were recruited via an online intervention called Germ Defence, designed to help people protect themselves from viruses in the home, but two participants were recruited via social media. Data were analysed using thematic analysis.

Results: Cleaning and handwashing were widely perceived to be effective and acceptable, although some participants described how other members of their household were less adherent to these behaviours which could cause anxiety. Behaviours such as spending time in separate rooms at home and keeping physically distant were often seen as less acceptable, especially when no-one in the household had any symptoms. However, people were also aware that not putting these behaviours into practice until symptoms had developed would likely mean the virus had already spread within the home, which made them feel powerless or confused.

Discussion: People felt more empowered when they understood that even small changes, such as spending *some* time apart, were worthwhile in order to reduce exposure and lessen viral load.

Introduction: Behavioural measures have been recommended to help control the spread of the COVID-19 virus, and it is known that transmission within the home is a key risk (Wang et al. 2020). However evidence suggests that adherence to these behaviours within the UK is mixed (Ainsworth et al. 2020).

This study sought to explore perceptions of performing protective behaviours at home in order to identify possible barriers and facilitators for people and develop an understanding of how these behaviours are influenced by people's perceptions. We took the opportunity to analyse qualitative interview data that were already being collected to inform the optimisation of Germ Defence, a freely available website (www.germdefence.org) developed by the Universities of Bristol, Bath and Southampton to help people protect themselves at home from COVID-19 (Ainsworth et al. 2020,Ainsworth et al. 2016).

This paper is currently a work in progress, and more data continue to be collected. We have uploaded it now in order to share the important insights gained so far as early as possible, to inform further research and guidance on protection at home.

Aim: To rapidly analyse qualitative interview data collected as part of the Germ Defence optimisation study, in order to explore perceptions of infection control in the home.

Method

Participants

Inclusion criteria were those over the age of 18, able to access the Germ Defence website and able to give informed consent. Participants were recruited via two main routes. Users of the Germ Defence website were given the option to register their interest in research participation (n=7). Those who had not yet used the website were recruited by free adverts on social media such as Facebook and Twitter, and newsletters sent out by organisations and community groups on our behalf (n=2). The advert specified that participants would be paid £10 to thank them for their time. We sought to purposively sample participants by factors such as age, gender, education level, risk status and experience of COVID-19 in order to obtain a diverse sample. As of 18th August 2020, nine people had participated in the study. The interviews were conducted in June-July 2020.

Measures

Demographic questions to inform purposive sampling

Potential participants were asked to complete an online questionnaire to determine age, gender, experience of COVID-19, and education. In addition, contact information was collected (email address and/or phone number) to enable a researcher to invite the potential participant to interview. Subsequently, online consent forms collected name and email address to enable researchers to link the consent form with the relevant participant.

Topic Guides

Two types of interviews were conducted: Thinkaloud (n=8) and retrospective (n=1). Both types of interviews were semi-structured, the researcher guiding the participants through use of a topic guide containing open-ended questions and prompts.

Thinkalouds

At the beginning of the Thinkaloud interviews, participants were asked a series of questions pertaining to their general perceptions of the COVID-19 pandemic and protecting themselves at home (for example: Can you tell me how you feel about the coronavirus at the moment?). Then, the participant used the website as normal and the researcher asked them what they thought of the content on each page. The interviewer had access to the website in front of them during the call, and asked the participant to let them know each time they clicked 'next' to enable the researcher to follow along with them. At the close of the interview, a series of general questions were asked about their overall thoughts of the website.

Retrospective

For the retrospective interviews, participants were invited to interview approximately one week after viewing the Germ Defence website. During this time, participants were offered a diary in order to record their experiences of putting protective behaviours into practice in the home (such as handwashing or physically distancing themselves from other members of their household). During the call, the researcher encouraged participants to explore what worked well and what was more difficult to adhere to in a real-life environment (for example: Have you tried following any of the suggestions from Germ Defence in the last week?).

Procedure

All members of the public who accessed the Germ Defence website were presented with a pop-up banner when they reached the end of the core session, which asked them to click for more information if they might be interested in taking part in research to help improve the website. This linked to the online questions to inform purposive sampling, which was hosted by Qualtrics. Potential participants who were recruited via social media or community newsletters were given a link to the same Qualtrics page via the recruitment advert. Participants were purposively selected by the research team and sent a link to the consent form (which was also hosted on Qualtrics) for either the Thinkaloud or retrospective interviews.

Those who completed the consent form were contacted by a researcher to set a time for the telephone interviews, which were audio-recorded using a Dictaphone. At the start of the interview, the interviewer confirmed receipt of the participant's consent form, reiterated the key information about the purpose of the study, and confirmed that the participant was still happy to continue. Before beginning the recording, the participant was told that they could ask for the recording to be paused at any time, or the interview stopped. At the close of the interview, participants were thanked for their time, offered a summary of the results once analysed, and were sent a £10 Amazon voucher as thanks for taking part.

The audio-recordings were labelled with anonymous participant codes and transcribed verbatim by the company SmallBiz. All audio data and transcripts were stored securely on the University of Southampton network in password protected files, and identifiers such as names or places were removed from the transcription. Participant codes were linked to the demographic details (age, education level and experience with COVID-19) collected during recruitment in a separate key. Any personal information was deleted after data collection had finished, and the transcripts will be retained for 10 years. Audio files will be deleted after the data analysis is complete. Ethical approval was granted by the University of Southampton Psychology Ethics Committee (ID: 56445).

Data Analysis

The transcripts were split between two researchers (KM and LT) in order to facilitate rapid analysis of the data. Data were analysed thematically using the Braun and Clarke method (2013). The researchers read through the transcripts to first familiarise themselves with the data. Data were analysed inductively by unit of meaning, keeping the core aims of the study

in mind (barriers and facilitators to, and perceptions of, infection control behaviours in the home). Some in vivo codes were generated during this process ("It's all or nothing") where they captured a recurring concept across the data. The researchers then began searching for patterns across the data, generating a preliminary thematic framework to guide subsequent coding. Both researchers met near the start and end of the process to discuss the framework and to agree and unite their coding under this framework.

Results

Participants

Table 1 shows the demographic details of the nine participants. The mean interview length was 79 minutes (range 60-104 minutes).

Table 1. Demographic details.

ID	Gender	Age	Date interviewed	Household members
1	F	62	08/06/2020	Lives with husband, teenage sons and foster son
2	F	66	11/06/2020	Lives with husband with cancer
3	F	53	12/06/2020	Lives with 2 teenage children
4	F	70	29/06/2020	Lives alone
5	F	53	01/07/2020	Lives with older parents with comorbidities, husband, and teenage son
6	F	61	03/07/2020	Lives with partner
7	F	54	07/07/2020	Lives with husband and adult son
8	F	59	16/07/2020	Lives alone
9	M	25	23/07/2020	Lives with parents and sister

Table 2 shows the themes and codes developed by the researchers, which are described in more detail below.

Table 2. Coding manual

Theme	Codes	Definition	Example quote
Perceived risk	Current levels of virus in circulation	Weighing up perceived risk of virus based on current infection rates	*"I want to know is it safe for me to go out? You know, what's the transmission rate where I live?" (p6)*
	Perceived likelihood of virus entering the home	Likelihood of a household member or someone outside the home bringing the virus into their home	*"the biggest concern is just bringing it in from outside, but I'm not doing particularly too much to risk that at the moment, I wouldn't say". (p9)*
	Perceived risk of severe illness if someone in the home caught the virus	Considering how vulnerable household members are to becoming severely ill from the virus	*"I'm fifty-three, going on fifty-four, and the age group is looking not so brilliant now, when I was looking in press reports. I know they said over seventy. I'm pretty fit, which is good. The only problem is, I have high blood pressure, and I'm on medication for that". (p5)*
Belief in the effectiveness of the protective behaviours	Barrier: Virus is likely to spread before you know you're ill	Belief in the potential to contain the virus if it enters the home	*"do everything in my power to prevent getting it, by assuming that I haven't got it, so wearing a mask in the house, keeping two metres, trying to keep the person that's got it in the household in a separate room" (p9)*
	Facilitator: Reducing all or nothing thinking	Perception that it is worth reducing exposure to minimise viral load, and that even small changes can make a difference	*"the less we get in touch- the less we have contact with the virus, the safer we will be" (p7)*

	Facilitator: Believing protective behaviours to be effective for reducing risk	Perceived need to perform protective behaviours based on perceived effectiveness (including cleaning, leaving things aside, opening windows, wearing face-coverings etc)	*"The thing with the face coverings is, they haven't got any filters in them, these cloth ones…. And I think it could be more infectious, because it'll get wet with your breathing. And then it's no good to anyone". (p6)*
Acceptability of protective behaviours	Barrier: Importance of time together	Includes concerns about own or others' mental well-being if spending time apart, and the value placed on time spent together.	*"I'm worried more about like the mental health of the other people. So although we're very careful, and not mixing. So I don't think I could cut down on the amount of time I spend with other people, because they'll get lonely" (p5)*
	Barrier: Wanting to look after others	Wanting to care for others with the virus would make it harder to self-isolate from each other.	*"I think for me it would be hard if it was one of them that had it, because my instinct as a mum would just be to like sit with them and be with them, to try and help them through it*". (p3)
	Facilitator: Ways of maintaining (distanced) intimacy	Finding ways to maintain emotional intimacy when social distancing or self-isolating	*"We have, I had a bit of, as I said, a bit of a dry cuddle, like I go over his shoulders, but I don't breathe on him and he doesn't breathe on me. So we're kind of on board with it, you know?" (p2)*
	Barrier: Wanting or needing to open deliveries	Deciding against leaving things aside for 3 days due to wanting	*"I can't wait three days to open a parcel, or my grocery shopping" (p7)*

		or needing the items more immediately	
	Barrier: Face-coverings are uncomfortable	Finding face-coverings uncomfortable to wear	*"I felt quite claustrophobic, I felt a bit sort of panicked. Like just… like was I going to… I was sure I would be able to breathe fine, but I just felt a bit like, 'oh God, I'm not going to be able to… I don't feel like I can breathe properly'". (p3)*
	Barrier: Protective eyewear is a step too far	Finding the idea of wearing glasses to protect your eyes from the virus unacceptable, except if you already wear them.	*"I don't know, I mean, I wouldn't think of doing that. If, you know… well, not purposefully, I mean, if I am already wearing my sunglasses then I'll stick with them, but… but I feel protective goggles… can you imagine?" (p8)*
	Barrier: Using plastic bags for used face-coverings is wasteful	Not wanting to wear face-coverings due to the need to put used ones in a plastic bag.	*"I'm anti-plastic anyway. Where's that plastic bag going, it's in your bin, and it's going to go in groundfill" (p6)*
Having capacity to perform protective behaviours	Facilitator: Having the space to socially distance and self-isolate	Having enough space, or not, in your house to either socially distance or self-isolate	*"My son sits in one settee and my husband and I sit in the other. And that… it doesn't protect us all, we're not all sitting on our own sofa, but who has three sofas in their room? So… we do what we can". (p7)*
	Barrier: Lack of control over others' behaviour in the home	Includes descriptions of encouraging others to adhere to protective behaviours, or the challenges of trying to influence others.	*"I will just keep reminding him, all the time, to wash his hands. And he'll say, "I've done it." You say, "No you haven't. The sink's not wet." And, "well I did it. I did do it, I did it when I got to my...' Because he's a sink in his room, "I did it when I got*

			to my room" which we know is not necessarily the case". (p1)
Effort in performing the behaviours	Facilitator: Already did this to some extent	Descriptions of behaviours that were already happening anyway	*"I found that they are things that I have always done, throughout my life, because I was taught to as a child". (p4)*
	Facilitator: Becoming routine	New protective behaviours are becoming more routine or normal for people, or not.	*"Anything I can wipe down, I wipe down. So that, now… it, I mean, it is… it still is harder than it used to be, because I never would've done that before. But it is more normal now". (p3)*
Confidence in how to perform the behaviours	Barrier: Inconsistent information	Any descriptions of confusion over changing or inconsistent information about how to perform protective behaviours	"*I've just read an article in the Times that this [washing fresh produce in soapy water] is very dangerous, so I'll have to re-read it and decide, or maybe you can tell me, because I've got no idea now, I'm completely confused".* (p5)
	Facilitator: Practical advice and troubleshooting	Includes any perceptions about practical guidance on how to perform protective behaviours	*"A bit more about what kind of disinfectants work best. And also, what is used, you know, what do you use to- with your disinfectant? Do you use a sponge, do you use a disposable… this, that, and the other? What do you use?"* (p8)

Themes

Perceived risk

Current levels of virus in circulation

Information about the current risk was important for some people to help make informed decisions.

“you’ve got all the areas by local health authority or by county in England, but it just says Wales, and it just says Scotland. And it… and it’s annoying, and you can’t find the R… the R-Value, or the rate of transmission, or anything like that, for the area where I live. And that’s really what I want to know, because I want to know is it safe for me to go out? You know, what’s the transmission rate where I live?” (p6)

Some people weighed up the need to perform difficult behaviours against the current levels of virus in circulation. For example, a mother offset her reluctance to follow social distancing guidance in the home against the lower perceived necessity to do this at the moment.

“there is that sort of hope that, as there is I think known to be that much less of the virus around in the… (sigh) sort of just out there generally at the moment, that hoping that that… although we’re still taking all the precautions, there is that hopefulness that, you know, there is… the risk is less now than it was back in March”. (p3)

<u>Perceived likelihood of virus entering the home</u>

Having people from outside the household in the home was felt to be a significant risk.

“I had a workman come in and he had to look at – because my heating’s gone – and I was having a heart attack with him touching anything. So I was going round spraying everything with bleach like a maniac, even the carpet. So what are you meant to do if you’ve got workmen. I made him wear a mask, I made him wear gloves”. (p5)

“Well I’m not going in anybody’s house, and I’m not having anybody in my house. But my children have been down to see me, and I put a camping toilet up in the garden, within a ten-in a, you know, a toilet tent that you use for camping. And there’s... and I brought water out for them to wash their hands and everything... I would love to give my grandchildren a hug, but I won’t. And I’m not forming a bubble with anybody. Because I don’t want people in my house. My house is my safe haven” (p4)

A couple of participants were also concerned about those in the household bringing the virus home if they needed to leave for work. This was influenced by how much mixing the person was doing outside the home, and the perceived severity of the consequences if someone in the household became ill.

“They said only one person is allowed out during the lockdown. So my, it was my husband. And I was just getting a bit freaked out because my parents and my son – more my parents,

actually – and so I went and slept in the spare room, rather... because I was worried, because I'm the one who does the cooking and things, that I would pass it on to my parents if he caught it". (p5)

"he works by himself, he does gardening…So he goes to work and does his own thing, and doesn't see anybody, really. Maybe he sees his boss and his boss' wife, but I think they keep social distancing and everything. There's no touching or anything. So I don't really feel that I've got anything to worry about" (p6)

<u>Perceived risk of severe illness if someone in the home caught the virus</u>

People's perceived risk of becoming severely ill from the virus was influenced by co-morbidities (such as cancer, COPD, asthma and high blood pressure), old age, ethnicity, and being an inter-generational household.

"when you've taken a decision to tell your parents to come and live with you, and then you're reading stuff about intergenerational households, it's a much higher risk….this idea of intergenerational households, I was really, really unsure about it. I felt it was a huge responsibility, but I just didn't know what else to do, because I thought my parents would have to go out shopping. And I think they would've done if they'd stayed. And in particular my mother would, because my father is unwell, he can barely walk now". (p5)

One participant described how she decided to shield with her husband to protect him, despite not being classed as vulnerable herself.

"I would just be so petrified I was going to give him something, I probably would end up shutting myself from the world. So I think that my mental health wouldn't have been that good. So in a way, I feel less… less kind of imprisoned in a way, by shielding myself with him, than going out into the so-called freedom, but then coming back and being petrified I'll kill him. I mean, I literally think that, I think, 'oh...' You know, and I've talked to friends about it, and they say, you know, "What you need to think about is, if anything happened, how would you feel?" And that, you know, that just makes my mind up." (p2)

One participant described how one of the younger members of her household felt he didn't need to worry about the virus because of his age, and he perceived that only those at increased risk needed to be concerned.

"Our young man thinks that the only… the only people that you should be worried about are people that are at increased risk, should they catch it. Not everybody else. Do you know what I mean, it's like, oh well, we… you know, it doesn't matter because they're fine, my friends are fine." (p1)

One divergent case described how while she felt she'd be unlikely to survive the virus due to her COPD, on the other hand she wondered whether she may have already had it (after going on holiday in January with her daughter who subsequently developed a severe cough), and believed her age could have enhanced her immune response.

"So it's sort of half of you there is thinking, 'well I was with her, but then she could've picked it up somewhere else,' you know. I'd like an anti... I'd like a, you know, I can't wait for the test to see if you've got the antibodies to it… it's related to the common cold, isn't it, the virus. And when you're older, you build up an immunity to these different colds. I know not all of them. It would just be interesting" (p4)

Belief in the effectiveness of the protective behaviours

Barrier: Virus is likely to spread before you know you're ill

Some people were uncertain whether it would be achievable to prevent the virus spreading in the home.

"I think I probably still am, to a certain extent, sceptical about whether we would be able to get a virus come into this home and avoid spreading it between us (p3)

Meanwhile another family had experience of avoiding catching swine flu from one person in the home which helped them believe these behaviours can be effective, although there was some concern that COVID-19 was more contagious.

"my husband became ill with Swine Flu in 2009… it wasn't as infectious, the Swine Flu, so we didn't all get it, we were just… we were just careful". (p7)

People were concerned that the virus would already have spread by the time they socially distanced or self-isolated, making it pointless unless done continually.

"if at any stage I started to feel ill, which is probably then too late, because I probably would've then spread it to them, I could've potentially spread it to them by then anyway, I would… I

would then take myself to my room. Yeah. So. Yeah, I'm not finding that an easy one, that one". (p3)

Another participant was aware of the likelihood it would have already spread, but felt he would still adhere to the behaviours as he was aware of examples where the virus hasn't spread in a household which helped him feel it would be worthwhile. This suggests that people's confidence in the effectiveness of the behaviours is increased by examples of success stories.

"*I think I would already have to accept the fact that the likelihood of me having it is probably high, or… although there have been lots of cases where there hasn't been any family spread, even living in the same house, which is pretty crazy. But I think… yeah, I would accept the fact that I'd probably already got it, but… so obviously self isolate, but then do everything in my power to prevent getting it, by assuming that I haven't got it, so wearing a mask in the house, keeping two metres, trying to keep the person that's got it in the household in a separate room. In a well ventilated room. Keeping the bathrooms separate from that person, and I think we would be far more strict on it".* (p9)

<u>Facilitator: Reducing all or nothing thinking</u>

People were more likely to perceive protective behaviours as effective and worthwhile when they perceived catching the virus as a continuum based on how much viral load you are exposed to, rather than you either catch it or you don't.

"I use antibacterial wipes on just about all the shopping that comes into the house as well, when it's delivered, just as a precaution. Because I think it's safer if you do… if you do get the virus that it's as small as possible.. because I have read that there's potential seriousness of viral load in this one, so that is why a lot of young healthcare workers were getting very sick, because they might have been exposed to a higher viral load… So the less we get in touch- the less we have contact with the virus, the safer we will be" (p7)

This was empowering as it helped people feel that small changes can still make a difference.

"I am sitting here thinking, if I turned the table the other way around, we could actually sit further apart from each other at the table, which might be one small thing, I feel, that we could achieve. So I'd say that's… that… yeah, that's… that is a possibility" (p3)

However, one participant who was very concerned about her husband's health if he caught the virus felt that she needed to follow all protective behaviours in order for it to be worthwhile. This suggests it is important for people to understand how even small changes are better than nothing.

"minor risk of the delivery people, you know, coming to the door. Well they don't come to the door, they come to… you know, bottom of the path and obviously we have to pick the stuff up. But it's the only risk I take with any of it, and you know, when I think about it, I think, 'well… it's either all or nothing,' and it kind of is, isn't it?" (p2)

<u>Facilitator: Believing protective behaviours to be effective for reducing risk</u>

Some people felt that they were more at risk from catching the virus via airborne routes than on surfaces, and this influenced their perceived need to leave deliveries aside for three days. Specific information about how long the virus lasts on different surfaces was quite influential for people.

"*To me, it's avoiding crowds and people sharing spit. (Laughs) For want of a better word. Breathing on you, and shouting or singing or that kind of thing, you know? So I don't think I'll be worried about parcels and shopping and that at all… I read originally, right back probably March, that it could last on surfaces for nine days. But that was… that was like work surfaces, hard surfaces. Possibly metal, I can't remember. But it didn't make me paranoid about like the shopping, or… or even deliveries*"." (p6)

"I think this virus is more likely to be transmitted through an airborne route rather than contaminated surfaces, but that's only my uneducated best guess work". (p7)

"everything's covered in this bloody plastic, which is really irritating, because this virus is meant to survive three days on plastic. So I put everything in that fridge, and then take it out if I can, after three days". (p5)

One participant described becoming more complacent about leaving deliveries aside, as they chose to open them and wash their hands instead which was seen as more practical now that many deliveries are arriving by post.

"we've all got kind of used to the normality of just things coming in the post more often than actually going out and buying it, that we just open it up now straight away, dispose of whatever the packaging is, and then wash our hands thoroughly, basically, so… yeah, so although it hasn't given it time to die off, the virus, if it was on the parcel, we just thoroughly wash our hands afterwards and hope it has the… that is the one thing that has, yeah, we've become more complacent with it as a family, I think" (p9)

Meanwhile cleaning and washing hands was seen as important by most participants, and was something they already had high awareness of.

Cleaning was sometimes associated with being paranoid; some people were keen to explain they weren't paranoid about the level of cleaning they do, whilst others described how the virus has made them feel paranoid about cleaning.

"careful but not paranoid, yeah. I don't wash my keys in soapy water, and I don't regularly wash my car. We just wash and hand gel our hands after we've been somewhere that's in the car, when we get back into it". (p7)

"at the beginning I was cleaning constantly. The house. I still am…. And then I'm spraying, when they're doing that, I'm spraying down the surfaces with disinfectant, because I'm worried about this transference. Okay, you've just touched it, so you've put it down. So that now gets onto that surface, if somebody in the meantime touches that surface, it then carries on and then goes onto another surface. That's what I'm on about, with the paranoia". (p5)

However, another participant described how she felt that cleaning and handwashing regularly was effective and sensible, not paranoia, and that there was no such thing as being too clean.

"that kind of a thing that people say, "Oh, you've got to get, you know, a peck of dirt does you good, and your… it helps your immunity. And we all catch things because we're too clean". You know, that kind of thing's run out of water, really, hasn't it? You know? It's not because we're too clean, it's because, you know… I mean, obviously even if you wash your hands you're not completely sterile, are you? You're just taking off the bad stuff." (p2)

People's willingness to wear a face-covering was strongly influenced by perceptions of effectiveness, although nobody talked about wearing a face-covering within their own home – the focus was only on wearing them outside the home. Some people had read information from other countries which convinced them that face-coverings were an effective way to prevent transmission (p7, p9), and one participant emphasised how she believed face-coverings were important for protecting others more than yourself (p8), whereas a few remained unconvinced and wanted more evidence.

"*I might wear a mask, like I told you, I need to do more research on that*". (p6)

Reasons offered for why masks might be ineffective included lack of filters, the mask causing infection due to dampness from breath, and people touching their face.

Opening windows was perceived to be important to *'clear the air in your house'* (p6) and was sometimes seen as a way of helping to protect yourself when not willing to spend time apart.

Acceptability of protective behaviours

Barrier: Importance of time together

The idea of self-isolating within the home was quite daunting for people and there were some concerns about the effect on mental well-being.

"I don't think I could cut down on the amount of time I spend with other people, because they'll get lonely… And it's been actually very stressful being apart from my husband, because I've been married like thirty-one years. And even if you're having marriage problems, I would never have slept apart from my husband. But I am now, so I mean, it shows you how nuts I am". (p5)

Some people described spending some time on their own during the day, but the evening meal was often regarded as an important time to spend together.

"I'm by myself all day anyway, I'm glad… I'm glad when my partner comes home from work, and he doesn't talk very much anyway. But we have a little chat when he comes in. And if I, if he… if he… we do sit in the evening, we have our food together, and we do sit and watch TV together" (p6)

"we're all eating the same meal every night, and because otherwise life would just be… be horrendous. If nobody spoke to one another, so that's not easy for me to do, and it's not something I would do". (p7)

"the evening meals are nice, I mean, that… that's the one thing where we don't really take any precaution with the family, just because we all sit around the dinner table. But that is a nice part of the day, really, so in that respect it's quite good for everyone's mental health" (p9)

One couple found the idea of eating separately with the at-risk individual in his room as completely unacceptable:

"I think the guidance said something awful, like he should stay in his own room and be, you know, deliver his food to him like he was a kind of caged animal." (p2)

Some people perceived social distancing as acceptable for short periods of time if someone is ill, but not as something to do indefinitely as a preventative measure.

"Is that something I would have to do all the time, every day of my life? And then that feels completely… just, that's just not something… I wouldn't feel that there was much quality of life if I had to… if I'm living in the same house as my children at the moment but I couldn't hug them or sit near them or… yeah. Yeah, so that's… yeah. I don't really like that bit…. It's something I could see potentially doing if it was for a limited period, but it just feels impossible sort of long-term". (P3)

<u>Barrier: Wanting to look after others</u>

A mother of two teenage children described how she would struggle not to spend time with her children to care for them if they were ill.

"I think for me it would be hard if it was one of them that had it, because my instinct as a mum would just be to like sit with them and be with them, to try and help them through it". (p3)

<u>Facilitator: Ways of maintaining (distanced) intimacy</u>

Some participants had made some changes at home to enable social distancing, and they described how they managed to maintain some feelings of intimacy.

"I added on an extra table in the dining room, so that I could keep like a metre from him, but when we're eating, even though it's joined eating. And I was... I changed... family meals on

Jewish ones, you tend to have communal ones, it's a very communal religion. But I altered it slightly, so whereby it all has separate forks and it's less communal, so you can't touch it. Because I was worried about contamination. It... so I altered that slightly, which has been different". (p5)

"We have, I had a bit of, as I said, a bit of a dry cuddle, like I go over his shoulders, but I don't breathe on him and he doesn't breathe on me. So we're kind of on board with it, you know?" (p2)

"in the morning, I go and wake him up and say, "Oh, I'm getting up now for work," and he goes down and makes me a cup of tea, just because we kind of like to have that... But he will deliver it to, you know, my dressing table and then I'll pick it up and take it back to bed and that. It's kind of trying to keep that intimacy, but without actually being, you know, sharing everything." (p2)

Barrier: Wanting or needing to open deliveries

For some people, putting aside deliveries was not perceived as feasible, and some people suggested they had become more complacent about this over time.

"I used to put them in the bedroom for three days before I opened... the only trouble was, the post, sometimes they needed to be opened". (p4)

"I can't wait three days to open a parcel, or my grocery shopping" (p7)

Barrier: Face-coverings are uncomfortable

A couple of participants commented that they found face-coverings uncomfortable to wear.

"And I've also got one that's got an air filter on it, that my son bought for me. But it smells disgusting, so I can't see me ever wearing that". (p4)

Barrier: Protective eyewear is a step too far

Most participants did not comment on wearing protective eyewear, but one person felt that this was unacceptable.

“I don’t know, I mean, I wouldn’t think of doing that. If, you know… well, not purposefully, I mean, if I am already wearing my sunglasses then I’ll stick with them, but… but I feel protective goggles… can you imagine?” (p8)

Barrier: Using plastic bags for used face-coverings is wasteful

One participant mentioned a reluctance to wear a face-covering due to the advice to put it in a plastic bag after taking it off, unless you can wash it immediately.

“I’m anti-plastic anyway. Where’s that plastic bag going, it’s in your bin, and it’s going to go in groundfill” (p6)

Having capacity to perform protective behaviours

Facilitator: Having the space to socially distance and self-isolate

Having sufficient space was an important factor in how feasible it was for people to socially distance and self-isolate.

“I would’ve been able to keep away from him, because I’ve got, you know, I’ve got three bedrooms and… (Laughs) Separate dining room and a living room” (p6)

Social distancing could be more difficult for families to implement due to smaller bedrooms or lack of space in the living areas.

“I have my own room here, but I’ve got the box room in the house. So I’ve got the tiny, tiny room here. There’s not a huge amount of incentive for me to want to stay in that room”. (p3)

“My son sits in one settee and my husband and I sit in the other. And that… it doesn’t protect us all, we’re not all sitting on our own sofa, but who has three sofas in their room? So… we do what we can”. (p7)

Barrier: Lack of control over others’ behaviour in the home

Some people found it challenging trying to implement house rules for others to follow during the pandemic. Hand-washing was a particular behaviour mentioned that participants tried to persuade partners and children to do, or checked whether they had done it.

"But when he comes home, I tell him to wash his hands, and every time he get home, I'm always, "Have you washed your hands?" at the beginning, I'm not so bad now, but at the beginning". (p6)

"I will just keep reminding him, all the time, to wash his hands. And he'll say, "I've done it." You say, "No you haven't. The sink's not wet." And, "well I did it. I did do it, I did it when I got to my...' Because he's a sink in his room, "I did it when I got to my room" which we know is not necessarily the case. So it's… it's tricky, but we're trying to keep on the case." (p1)

A couple of participants also found their family were less aware about transferring viruses to other surfaces.

"He ordered a delivery and he did put some gloves on, which we bought, but he then, I saw him touch the front door, kind of like the knobby thing that you close it with, touched the door into the kitchen, touched a third thing. I was having to think, 'what's he touched, what's he touched?' So I'd go and just get… the… I mean, I don't know how many germs there are on a plastic bag handle, to be honest, but I suppose it depends on if the person touching it has got it." (p2)

One participant described how her concerns might become annoying for her family.

"they do a song, 'Wash your hands,' when I'm around, because I drive everybody insane like for... (Laughs) every time, every five minutes, sort of like "Wash your hands," it's like... it's the family joke…. my husband is saying that, 'you're like watching everybody, it's like constant. It's going to drive everybody insane'." (p5)

Effort in performing the behaviours

Facilitator: Already did this to some extent

Some participants described how some protective behaviours, such as cleaning, regular hand-washing and not sharing towels, had already been the norm for them before the pandemic, which helped them to adhere.

"I found that they are things that I have always done, throughout my life, because I was taught to as a child". (p4)

"We're Jewish, Orthodox ones, you have to do that anyhow, it's part of our beliefs, you have to be very careful with washing things and so on. And washing your hands before you touch anything to eat, and there's special prayers that you do. So you have to do that anyway, so that's actually quite easy". (p5)

Social distancing was also facilitated in some households with teenage children, who were described as spending a lot of time in their rooms anyway.

Facilitator: Becoming routine

Some participants had found that the new behaviours such as regular cleaning had become normal.

"I think they're definitely becoming habits now. So, you know, that even when the food shop arrives, anything that I can put away for three days goes away. Everything else like… not obviously fruit and veg, I wash those just in water. But anything I can wipe down I wipe down. So that, now… it, I mean, it is… it still is harder than it used to be, because I never would've done that before. But it is more normal now". (p3)

Others who were being extremely careful about cleaning found it could be quite effortful and fatiguing. It seemed that participants who had others at home who were at high risk of becoming seriously ill from the virus were more likely to find the constant cleaning demanding.

"It feels like it's a constant state of vigilance. It's very high intensity, that level of concentration all the time, not to lapse…. if I need something straight away and I take it in there to wash, and then worry that that bag... when I undo it, I will be very careful, I only take one at a time, so it takes me ages". (p5)

"But he…sometimes helps to wipe down the stuff, the food. I find (Audio obscured) really tiring" (p2)

Confidence in how to perform the behaviours

Barrier: Inconsistent information

Conflicting information was confusing for people and reduced their confidence to effectively protect themselves. People wanted clear, practical information on what to do.

"*I put everything in that fridge, and then take it out if I can, after three days. But if I can't, then it's washed down. Like in soapy water, or with baby sterilising... But I've just read that you shouldn't be doing that, so now I'm completely confused. They said it's more harmful. So I'm not sure what to do about that, now I'm just washing it with water and things*." (p5)

"*I heard it on Watchdog, so part of me thinks, 'so yeah, that's… that should be quite reputable, then'. But then wondering whether I should be using diluted disinfectant…. Yeah, so that's… I don't know whether anti-bac wipes are enough or, you know, just the ones you buy, or whether just diluted bleach is okay, or whether there's something better that I should be using"*. (p3)

Facilitator: Practical advice and troubleshooting

In addition to simply being told which behaviours are necessary, some people wanted practical advice for *how* to perform hygiene and distancing behaviours such as cleaning and mask wearing/removal.

"Yeah, so a bit more about what kind of disinfectants work best. And also, what is used, you know, what do you use to- with your disinfectant? Do you use a sponge, do you use a disposable… this, that, and the other? What do you use? You need a bit of advice about that, otherwise you're just, you know, doing the classic of moving viruses and dirt around, and not actually do anything useful." (P8)

One participant describes how she has heard commentary on there being a correct way to apply and remove face coverings, but she has not found a source of reliable information on how to do so:

"So there seems to be a right way of taking off a mask that nobody talks about, and maybe something needs to be said about that, because I wasn't aware there is a proper way to remove your mask, apart from, you know, going from one ear to the next." (p8)

Table 3 shows a summary of the barriers and facilitators to protecting yourself at home.

Table 3. Barriers and facilitators discussed during interviews to following protective behaviours at home

Behaviour	**Facilitators**	**Barriers**
General	Elevated perceived risk, informed by current levels of virus in circulation, likelihood of virus entering the home, and risk of yourself or household member becoming very ill from Covid-19.	Virus is likely to spread before you know you're ill
	Reducing all or nothing thinking	Lack of control over others' behaviour in the home
	Believing protective behaviours to be effective for reducing risk	Inconsistent information
	Already did this to some extent	
	Becoming routine	
	Practical advice and troubleshooting	
Self-isolating/ social-distancing	Ways of maintaining (distanced) intimacy	Wanting to look after others
	Having the space to socially distance and self-isolate	Importance of time together
Face-coverings and eyewear		Face-coverings are uncomfortable
		Protective eyewear is a step too far
		Using plastic bags for used face-coverings is wasteful
Leaving things aside		Wanting or needing to open deliveries

Discussion

These interviews showed how people conceptualise the risk of catching and transmitting COVID-19, and use this as a rationale for their behaviour at home. Perceived risk increased willingness to adhere to protective behaviours, as did perceived effectiveness of the behaviours. Cleaning and handwashing were widely perceived to be effective and acceptable, although some participants described how other members of their household were less adherent to these behaviours which could cause anxiety. Behaviours such as spending time in separate rooms at home and keeping physically distant were often seen as less acceptable, especially as preventative measures to follow even when no-one in the household has any symptoms. Families described the evening meal as an important time of day to spend time together. Awareness of the concept of viral load helped people feel more empowered as they understood that even small changes, such as spending *some* time apart, were worthwhile.

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