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# Dual Diagnosis Anonymous (DDA) and the Transition to Online Support During COVID-19

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**Abstract:** The COVID-19 pandemic has been particularly challenging for individuals with concurrent mental health and addiction problems. Like other mutual aid groups, Dual Diagnosis Anonymous (DDA) of Oregon in the US and DDA-UK were forced to suspend face to face meetings during the pandemic. To continue to support its members, DDA began offering online meetings. **Objectives:** this study explored attendees' perceived effectiveness, strengths, and limitations of online support within the context of the pandemic. **Methods:** A total of 92 DDA members from the US (n = 71) and the UK (n = 18) completed an online survey, which included quantitative scales and open questions. Feelings of inclusion in online versus in-person meetings were assessed using an adaptation of the Work Group Inclusion Test (Chung et al., 2020). A supplementary interview was conducted with a DDA facilitator. The open survey questions and the interview were independently thematically analyzed by two investigators. **Results:** Attendance of meetings significantly increased after the introduction of online meetings (p < 0.001). Approximately half of the participants (51.09%) indicated that DDA online support was the most helpful form of support they received during lockdown; 98.77% of participants agreed that online support should continue after the lockdown. There was no significant difference regarding feelings of inclusion in online versus in-person meetings. **Conclusions:** Online meetings allowed DDA to go global and provided effective support to people with complex needs during the COVID-19 lockdown. Participants experienced a continuity of inclusion and accessibility due to the online provision. **Implications:** It is suggested that going forward, online support should continue alongside traditional face to face meetings due to its potential to increase convenience, accessibility, and inclusivity.

**Keywords:** Dual Diagnosis Anonymous, dual diagnosis, online support, peer support, mutual aid, recovery, addiction, mental illness, mental health, substance misuse, COVID-19, lockdown, 12-steps

## Introduction

The pandemic SARS-CoV-2, more commonly referred to as COVID-19, has led the world in an unprecedented direction due to widespread policies of social distancing and lockdown. There have been changes to the economy, political sector, workforce, education system, and modern lifestyle beginning in late 2019 and continuing onward (Nicola et al., 2020). However, one of the most significant shifts has occurred in the overall mental wellbeing of the global population (Aknin et al., 2021).

Emerging literature suggests that mental health in 2020 has significantly declined as compared to 2019. In a review of 16 studies, spanning 5 countries, Lakhani et al. (2020) found an increase in all forms of depression, anxiety, stress, sleep disturbance, and psychological distress among the general public. In a longitudinal study of UK households, the prevalence of clinically significant mental distress rose from 18.9% to 27.3%—a leap that cannot be explained by global trends (Pierce et al., 2020). Within the US, rates of anxiety and depressive disorders increased considerably, and one such study found that 40.9% of American participants reported at least one adverse mental or behavioral issue during the pandemic (National Center for Health Statistics, 2020a; NCHS 2020b; Czeisler et al., 2020).

In addition, an extensive literature review by Serafini et al. (2020) found that the most common responses to social distancing measures were fear of the COVID-19 virus, pervasive anxiety, frustration, boredom, and most of all—loneliness. Likewise, in a survey of 1,964 UK adults, 27% reported loneliness during the nation's first lockdown (Groarke et al., 2020). In a similar nationally representative survey, 1/3 of British adults have sometimes or often felt lonely since the beginning of the pandemic (Li and Wang, 2020). This increase in isolation poses a secondary threat to public health, as feelings of loneliness are linked to higher rates of both morbidity and mortality (Quadt et al., 2020).

For individuals with pre-existing mental health disorders (MHD), the increased isolation is particularly damaging. Loneliness mediates and exacerbates symptoms of depression (Switaj et al., 2013; Fortuna et al., 2020a; Wang et al., 2020). In an extensive review encompassing 28 countries, Rains et al. (2020) found that those with a pre-existing mental illness were likely to have experienced worsening symptoms as well as increased loneliness and social isolation during the pandemic. Additionally, individuals with a prior psychiatric condition are currently at high risk for acute mental distress, as well as a relapse of their condition (Xiong et al., 2020; Chatterjee et al., 2020). Moreover, the heightened media exposure surrounding COVID-19 may increase hallucinations, delusions, and paranoia for those with psychosis (Hamada & Fan, 2020).

The implications of the pandemic can be especially severe for individuals with co-occurring MHD and substance use disorder (SUD), or Dual Diagnosis (DD). The presence of both MHD and SUD is frequent. For example, in a study by Kushner et al. (2005) 55% of individuals in treatment

for alcohol use disorder (AUD) were found to have a concurrent anxiety disorder, and the presence of either AUD or major depression doubles the risk of developing the second disorder (Boden & Fergusson, 2011). In addition, according to a UK survey conducted by Carrà & Johnson (2009) 20 – 37% of individuals in secondary mental health treatment experience comorbid psychosis and substance misuse, and bipolar disorder is associated with some of the highest rates of SUD (Hunt et al., 2016). In general, people with DD are more likely to commit suicide (Crawford et al., 2003), experience homelessness, and face difficulties in receiving shelter, support, and healthcare (Schütz et al., 2019). Finally, the job loss, stress, and isolation caused by the pandemic can trigger relapses of both mental illness and substance use (Pancahl et al., 2020).

For individuals with SUD the pandemic's closure of services is made worse by a decrease in the availability of both street drugs and safe consumption. The United Nations Office on Drugs and Crime (2020) has reported a shortage of recreational drugs in Europe, Asia, and North America. Drug shortages, especially of heroin, often lead to the unsafe usage of domestically produced replacements, as well as needle sharing. In the UK, utilization of Needle and Syringe Programs (NSP) has halved since the onset of the pandemic—indicating a further increase in needle sharing and re-use (Whitfield et al., 2020). Additionally, individuals previously seeking treatment for drug use have been absent due to concerns over contracting COVID-19, as those with SUD are at high risk for both contracting the virus and experiencing physical complications as a result (Murphy et al., 2020; Mallet et al., 2020). Additionally, those with substance or alcohol use disorder face an increased likelihood of relapse, and rates of substance related disorders are expected to continue rising (Volkow, 2020). Finally, feelings of isolation are thought to increase use and decrease the potential for recovery (Ingram et al. 2020).

In the treatment of comorbid disorders, there is increasing evidence that integrated care consistently produces the most favorable outcomes (Drake et al., 2007; Fantuzzi & Mezzina, 2020), however, the current standard of mental health care emphasizes “primary need first” and individuals are often denied psychiatric care until their substance misuse is resolved (Ducharme et al., 2007). Additionally, mutual aid programs aimed at the treatment of AUD and SUD discourage the discussion of mental illness or psychotropic medication—preventing people with dual diagnosis from fully receiving the benefits of the identification process (Roush et al. 2015; Milani et al. 2020). As such, vulnerable individuals suffering from dual diagnosis are often left unsupported and isolated (Public Health England, 2017).

The paucity of integrated services has been compounded during the pandemic by the closure of many mental health facilities due to governmental guidelines and safety concerns. In the UK, Stewart and Broadbent (2020) reported a substantial reduction in the use of in-patient care during the pandemic as compared to the same period in 2019. During

the nation's first lockdown, the number of admissions to crisis resolution and home treatment decreased by 12% and 20%, respectively (Abbas et al., 2020). For substance use, Mellis et al. (2020) found a reported decrease in access to services for individuals with SUD, especially those using multiple substances.

Dual Diagnosis Anonymous (DDA), exemplifies the trend of online care while offering a novel approach in the treatment of DD. DDA was specifically created to meet the needs of individuals with concurrent disorders in an integrated fashion. This mutual aid program follows the 12 steps of Alcoholics Anonymous (AA) with an additional five steps specifically related to the experience of mental illness (Monica et al., 2010). The program may fill the gap left by other services in the treatment of both mental illness and substance misuse, due to its facilitation of social support (Gillard et al., 2013; Bassuk et al., 2016). Prior to the pandemic DDA was well-established in parts of the US and UK. Like other mutual aid groups, such as AA and SMART recovery (Bergman et al., 2020), DDA began running online meetings via the video conferencing platform "Zoom" in order to respond with a continuity of care.

Despite the rapid expansion toward—and acceptance of—digital services there is a lack of literature surrounding the effectiveness of these new programs. Research conducted in the last decade, with a recent acceleration, has demonstrated the considerable potential for online services, while highlighting their limitations and uncertainties. For example, in a study from Barrett & Murphey (2020) video conferencing provided positive supplementation to a 12-step program but was not a replacement for in-person meetings. According to Hoffman et al. (2020) individuals with more severe mental illness may be left behind due to a lack of technological access or capability. Therefore, online provisions raise questions regarding inclusiveness, confidentiality, and clinician ability, but its potential for convenience, access, and adaptability is encouraging (Sorinmade et al., 2020). As such, the conversation has turned to the role of online support going forward (Wind, 2020).

The present study attempted to contribute to this conversation by exploring DDA members' perceived effectiveness of online support during the COVID-19 lockdown. This was accomplished through the distribution of an online survey to DDA participants in the US and the UK. As such, the present paper may offer insight into the overall effectiveness of DDA in supporting people with concurrent disorders, as well as the strengths and limitations of using the online mutual aid provision. Finally, the present paper speaks to the ways in which the mental health and addiction sectors as a whole adapt to change, and how they can incorporate these lessons moving forward. This study aims to answer the following questions as experienced by DDA participants:

What is the impact of moving DDA online during the pandemic on DDA's effectiveness?

## What are the strengths and limitation of DDA online support during the COVID-19 pandemic?

### Method

#### Participants

A total of 92 DDA attendees responded to the online survey link. This was a joint study between the University of West London (UWL) and Pacific University (PU), and responses were split between the UK and the USA. However, DDA within the USA is a more widely established organization with a larger member base, and the rate of participation reflects this asymmetry. Of the 92 completed questionnaires, 71 participants (78.02%) were from the USA and 18 participants (19.78%) were from the UK. Overall, most participants were white (85.71%) and female (61.96%). Participant age ranged from “18 to 70 or over” with most individuals between “40-49” (28.26%). Further demographic characteristics are presented in Table 1.

**Table 1**

#### *Demographic Characteristics*

Characteristic	Category	Number	Total	%
DDA Membership	Longstanding DDA members	49	92	53.26
	New DDA members since moving online	43		46.74
Gender	Male	34	92	36.96
	Female	57		61.96
	Other	1		1.09
Age	18 – 29	2	92	2.10
	30 – 39	16		17.39
	40 – 49	26		28.26
	50 – 59	20		21.74
	60 – 69	20		21.74
	70 or over	5		5.43
	Prefer not to answer	3		3.26
Country of Residence	UK	18	91	19.78
	USA	71		78.02
	Other	2		2.20
Reasons for attending DDA	Dual diagnosis	40	90	44.44
	Primarily mental illness	4		4.44
	Primarily addiction	11		12.22
	Unspecified	35		38.9
Ethnicity	White UK, Irish, American, Other	66	77	85.71
	Latinx	1		1.30
	Native American	1		1.30
	Asian background	1		1.30

	African American	2		2.60
	Mixed background	2		2.60
	Other ethnic background	2		2.60
	Prefer not to answer	2		2.60
Employment Status	Employed	38	77	49.35
	Self-employed	4		5.19
	Out of work and looking for work	3		3.90
	Out of work and not looking for work	3		3.90
	On benefits	14		18.18
	Student	1		1.30
	Retired	6		7.79
	Other	7		9.09
	Prefer not to answer	1		1.30
	Highest Qualification	GCSEs, O Level or equivalent (UK) / Primary School (USA)	3	77
A Levels or equivalent (UK) / High School Diploma or GED (USA)		18		23.38
Associate Degree (AA, AS) or Professional Qualification		18		23.38
Undergraduate Degree (BA, BS)		21		27.27
Postgraduate Degree or Qualification		13		16.88
No qualification		1		1.30
Prefer not to answer		3		3.90

## Materials

An online survey via the platform Qualtrics was used to assess demographics, DDA membership, online support, individual experience of the lockdown, and feelings of inclusion in online versus in-person meetings. There were 36 questions in total, involving multiple choice, open response, and Likert scale.

### *Online Support*

There were 14 questions evaluating DDA members' experiences of receiving various forms of support during the lockdown period. These questions regarded DDA attendance prior to and during lockdown, services received from other organizations, services received from DDA, the experience of online DDA meetings, and whether online DDA meetings should continue post-lockdown.

### *Lockdown Experience*

There were 3 questions regarding DDA members' experiences of the lockdown period in general. These questions included an open response, "What I found most difficult during the lockdown was..." as well as, "Were there any positive aspects about the lockdown? Yes/No" and a follow-up question to explain the previous answer.

### *Feelings of Inclusion*

There were 10 questions used to determine DDA members' feelings and experiences of inclusion in online versus in-person meetings. This measure was adapted from the Work Group Inclusion Measure (Chung et al., 2020). The questions regard feeling valued, belonging, connected, cared

for, as well as the ability to share differing opinions, and the ability to critique the group. The original scale has two subscales: “belongingness” or the cultivation of supportive relationships and “uniqueness” or the ability to express individuality while remaining respected. Both subscales, belongingness ( $\alpha = 0.91$ ) and uniqueness ( $\alpha = 0.91$ ) demonstrate good internal reliability.

A modified version of the Work Group Inclusion Measure was utilized in this study to provide insight into the social dynamics of online DDA meetings as compared to in-person DDA meetings. Research suggests peer support groups rely on social ties to aid in recovery from alcohol and substance misuse (Dingle et al., 2019). The process of identification has been found to promote sustained recovery, including within mutual aid groups (Buckingham et al., 2013; Roush et al. 2015; Milani et al. 2020). As such, the researchers were interested in examining the social ties present within DDA through the lens of inclusion. The sub-measure “belongingness” is a valuable metric as it has been found to negatively correlate with both mental illness and substance misuse (Palis et al., 2020).

### **Procedure**

Participants were recruited through the online DDA meetings, which took place multiple times per week in the US and twice per week in the UK. DDA facilitators had been invited to collaborate in the creation of the survey and aided in its distribution as well. For a period of 4 months from June 25<sup>th</sup> to October 15<sup>th</sup> 2020 the facilitators advertised the survey at the end of each meeting and periodically encouraged participation. DDA attendees were provided a link in the “chat” of the online meeting which led them to the survey. Participants were also recruited via the DDA Facebook page, DDA Facebook group, the DDA US website, and WhatsApp messages during the same period. Anyone attending the online DDA meetings were invited to participate in the online survey. There were no exclusion criteria and participation was voluntary. Preceding the questions, DDA attendees were informed of the nature of the study and were reminded that they could withdraw their participation at any time. Participants were required to give their consent. A debrief sheet was provided which included resources for mental wellbeing. The entire survey could be completed within 15 minutes, but participants were given a week to finish. Median response time was 12.97 minutes (min: 0:1:15, max: 103:56:01). After data collection and analysis, the researchers conducted a brief phone interview with one of the UK facilitators regarding the experience of DDA members who did not participate in online meetings. Neither the DDA members nor facilitators were compensated for their participation. The study was approved by the UWL Research Ethics Committee.

### **Data Analysis**

Data were analyzed using the software SPSS version 26. Paired *t*-tests were run to analyze the difference in response to the online and in-

person inclusion measure at three levels; total mean, subscale mean, and individual item. A paired t-test was also run to determine any difference in online versus in-person meeting attendance. Factor analysis was utilized to corroborate the presence of two subscales within the inclusion measure for both online and in-person results. Cronbach's alpha was used to establish the internal reliability of the inclusion measure subscales. Thematic Analysis was used to analyze the facilitator's phone interview and the open survey questions. Both the interview and questions were thematically analyzed by two independent investigators following the procedure recommended by Braun & Clarke (2006). Any divergences were discussed between the two investigators until agreement was reached.

## Results

### Quantitative Findings

There was a significant difference in frequency of attendance between in-person and online meetings, with online meetings ( $4.97 \pm 2.81$ ) being more frequently attended than previous face to face ones ( $3.82 \pm 2.29$ ),  $t(38) = 2.687$ ,  $p < 0.01$ . Additionally, 43 participants ( $N = 92$ , 46.74%) began attending DDA after the introduction of online meetings.

When asked if online meetings should continue after the end of lockdown 0 participants indicated "Absolutely no" or "Probably no," while 98.77% of participants indicated "Probably yes" or "Absolutely yes." the most common form of support received from DDA during the lockdown was attendance of an online meeting ( $n = 74$ , 32.03%). The most common form of support received outside DDA was from another support group e.g., Alcoholics Anonymous or Narcotics Anonymous ( $n = 22$ , 29.33%). Additionally, participants indicated online support group meetings as the overall most helpful form of support they received during the lockdown ( $n = 47$ , 51.09%). Further attendance and support information is presented in Table 2.

**Table 2**

*DDA meeting Attendance and other Support Received During Lockdown*

Question	Category	Number	Total	%
Attendance of In-Person Meetings (Longstanding Members)	Less than 1 meeting per week	0	49	0.0
	1 meeting per week	19		38.78
	2 meetings per week	9		18.37
	3 meetings per week	7		14.29
	4 meetings per week	1		2.04
	5 meetings per week	4		8.16
	6 meetings per week	3		6.12
	7 meetings per week	1		2.04
	More than 7 meetings per week	5		10.20

Attendance of	Less than 1 meeting per week	3	73	4.11
Online Meetings	1 meeting per week	9		12.33
(Total Sample)	2 meetings per week	20		27.40
	3 meetings per week	10		13.70
	4 meetings per week	6		8.22
	5 meetings per week	5		6.85
	6 meetings per week	1		1.37
	7 meetings per week	5		6.85
	More than 7 meetings per week	14		19.18
Continuation of	Not sure	1	81	1.23
Online	Probably yes	11		13.58
Meetings After	Absolutely yes	69		85.19
Lockdown				
(Total Sample)				
Support Received	Other support groups	22	75	29.33
from Outside	Unspecified support	13		17.33
Organizations	Individual therapy/counseling	12		16.00
(Total Sample)	Mental health services (crisis, recovery, support workers)	9		12.00
	Psychiatric care	8		10.67
	Sponsorship/peer support	8		10.67
	Friends and family	2		2.67
	Religion	1		1.33
Most Helpful	Online Zoom meetings (DDA, AA, other)	47	92	51.09
Forms of	Sponsorship/peer support	12		13.04
Support	Informal online contact (phone calls, texting, social media)	8		8.70
(Total Sample)	No preference	8		8.70
	In-person meetings (one-on-one, groups)	7		7.61
	Mental health/psychiatric care	5		5.43
	Other	3		3.26
	Support group 'step' work	2		2.17

After removing participants who never attended in-person meetings from the in-person inclusion data, the Principal Components Analysis (PCA) on both the online and in-person inclusion questionnaire data confirmed the presence of two subscales. These subscales corresponded to the original “belongingness” and “uniqueness” subscales. All subscales, online belongingness (Cronbach's  $\alpha = 0.701$ ), in-person belongingness (Cronbach's  $\alpha = 0.904$ ), online uniqueness (Cronbach's  $\alpha = 0.764$ ), and in-person uniqueness (Cronbach's  $\alpha = 0.780$ ) demonstrated good internal reliability.

The paired samples t-test for belongingness did not find a significant difference in online versus in-person feelings of belonging,  $t(40) = 0.217$ ,  $p = 0.829$ . Additionally, the paired samples t-test for uniqueness did not find a significant difference in online versus in-person feelings of uniqueness,  $t(40) = 0.275$ ,  $p = 0.785$ . The total means for online versus in-person inclusion were also compared, and no significant difference was detected. Lastly, each item in the 10-question inclusion scale were compared, and

there were no significant differences between online and in-person meetings. The results of these analyses are displayed in Table 3.

**Table 3**

*Inclusion Measure Paired T-Test at Total, Subscale, and Question Level Amongst Longstanding DDA Members*

Pair	<i>M(SD), a</i>	<i>N</i>	Paired Sample T-Test
<b>Total</b>			
Online Total	4.73 ( $\pm$ 0.47)	41	$t(40) = 0.448, p = 0.656$
In-Person Total	4.70 ( $\pm$ 0.42)	41	
<b>Subscales</b>			
Online Belongingness	4.76 ( $\pm$ 0.52), 0.701	41	$t(40) = 0.217, p = 0.829$
In-Person Belongingness	4.74 ( $\pm$ 0.51), 0.904	41	
Online Uniqueness	4.69 ( $\pm$ 0.52), 0.764	41	$t(40) = 0.275, p = 0.785$
In-Person Uniqueness	4.67 ( $\pm$ 0.47), 0.780	41	
<b>Questions</b>			
Online ‘Valued’	4.89 ( $\pm$ 0.31)	38	$t(37) = 0.298, p = 0.767$
In-Person ‘Valued’	4.87 ( $\pm$ 0.48)	38	
Online: ‘Belonging’	4.92 ( $\pm$ 0.27)	38	$t(37) = 1.138, p = 0.262$
In-Person ‘Belonging’	4.84 ( $\pm$ 0.44)	38	
Online ‘Connection’	4.84 ( $\pm$ 0.44)	38	$t(37) = 0.000, p = 1.000$
In-Person ‘Connection’	4.84 ( $\pm$ 0.44)	38	
Online ‘Meant to be’	4.89 ( $\pm$ 0.39)	38	$t(37) = 1.534, p = 0.133$
In-Person ‘Meant to be’	4.76 ( $\pm$ 0.49)	38	
Online ‘Cared for’	4.84 ( $\pm$ 0.44)	38	$t(37) = 0.329, p = 0.744$
In-Person ‘Cared for’	4.82 ( $\pm$ 0.51)	38	
Online ‘Aspects of self’	4.79 ( $\pm$ 0.47)	38	$t(37) = 1.138, p = 0.262$
In-Person ‘Aspects of self’	4.71 ( $\pm$ 0.57)	38	
Online ‘Listened to’	4.79 ( $\pm$ 0.58)	38	$t(37) = 1.434, p = 0.160$
In-Person ‘Listened to’	4.68 ( $\pm$ 0.66)	38	
Online ‘Diverging opinions’	4.79 ( $\pm$ 0.62)	38	$t(37) = 1.183, p = 0.244$
In-Person ‘Diverging opinions’	4.63 ( $\pm$ 0.71)	38	
Online ‘Differing perspectives’	4.84 ( $\pm$ 0.44)	38	$t(37) = 1.138, p = 0.262$
In-Person ‘Differing perspectives’	4.76 ( $\pm$ 0.54)	38	
Online ‘New point of view’	4.66 ( $\pm$ 0.75)	38	$t(37) = 0.000, p = 1.000$
In-Person ‘New point of view’	4.66 ( $\pm$ 0.63)	38	

### Qualitative Findings

DDA members were also asked questions regarding their experience of online meetings and the lockdown. These questions were analyzed using Thematic Analysis by the first two authors. When asked to list any potential advantages of online meetings 38 participants mentioned “convenience” (38.78%) and only 3 participants declined to list any advantage (3.06%). Additionally, 20 participants (27.78%) described the lack of physical interaction and not being able to hug as the main disadvantages of online meetings (20, 27.78% and 13, 18.06% respectively), while 21 participants (29.17%) indicated online meetings had no disadvantages. Interestingly,

when asked if there were any positive aspects of the lockdown period 60 participants (75.0%) said “yes,” 13 participants (17.25%) said “not sure” and only 7 participants (8.75%) said “no.” Additionally, 20 participants (30.30%) described online meetings as a positive aspect of the lockdown period. When asked to list what was most difficult during the lockdown period, 52 participants (62.65%) mentioned isolation. The full list of themes identified in the responses regarding online meetings and the lockdown are listed in Table 4.

**Table 4**

*Advantages and Disadvantages of Online Meetings, Lockdown*

Question	Category	Number	Total	%
Advantages of Online Meetings	Convenience	38	98	38.78
	Meeting new people (international, transcontinental)	17		17.35
	Access in areas without meetings	13	72	13.26
	Support during COVID-19	13		13.26
	Safety during COVID-19	8		8.16
	Preference for online format	5		5.10
	No advantages	3		3.06
	Anonymity	1		1.02
Disadvantages of Online Meetings	No disadvantages	21	72	29.17
	Lack of in-person interaction	20		27.78
	Not able to hug	13		18.06
	Improper meeting etiquette	7		9.72
	Technological error	4		5.56
	Unfamiliar with technology	3		4.17
	Poor privacy	2		2.78
	Generally not as good	2		2.78
Positives of Lockdown	Online Zoom meetings	20	66	30.30
	Learning experience/opportunity for personal growth	14		21.21
	Increased time for hobbies and relaxation	12		18.18
	Decreased social pressure	7		10.61
	Increased time for recovery	5		7.58
	Increased family time	4		6.06
	Not contracting COVID-19	2		3.03
	Other	2		3.03
Negatives of Lockdown	Isolation	52	83	62.65
	Disruption of normal life	11		13.25
	No negatives	7		8.43
	Decrease in mental wellbeing	6		7.23
	Boredom	3		3.61
	Fear of COVID-19	2		2.41
	Unable to attend in-person DDA meetings	2		2.41

A phone interview was conducted with the facilitator responsible for supporting DDA-UK members who did not participate in online meetings (n=4). This interview was analyzed by Thematic Analysis by the first two authors. The most prominent finding from this interview was the two principal reasons for non-participation: inability to access technology and paranoia. Additionally, the facilitator reported that DDA members who did not participate in online meetings experienced an overall deterioration in mental wellbeing, as well as an increase in the feeling of isolation during the lockdown period.

## **Discussion**

The purpose of this study was to explore the effectiveness of online support by DDA during the COVID-19 pandemic, as experienced by people with co-occurring mental health and substance use disorders. The study aimed to add longitudinal merit to the ongoing evaluation of DDA's effectiveness as a mutual aid program, as well as contribute to the wider conversation regarding the 2020 lockdown, mental illness, and online support.

Overall, findings from the present study support the provision of online meetings. Approximately half of the total sample started attending DDA after it moved online and longstanding DDA members shifted from primarily attending one meeting per week to attending multiple meetings per week, including more than seven. Overall, attendance of online meetings was significantly more frequent than in-person meetings, suggesting that the online provision improved accessibility. Most importantly, participants felt no change in inclusion during online meetings as compared to in-person meetings. There were no significant differences in the dimensions of "belongingness" or "uniqueness" between the formats. Previous research found that sense of belongingness predicts attendance and success within 12-step programs (Rice et al., 2012), while "uniqueness" shares operational features with group acceptance, which is considered an important factor for recovery in peer support programs (Repper et al., 2011). Lastly, in a previous study, DDA members reported that acceptance, social identification, and social interaction—which can be conceptualized as uniqueness, belongingness, and inclusion—were key features of the program, and facilitated their recovery (Milani et al., 2020).

The positive outcomes for DDA's online care are in line with a recent largescale review by Fortuna et al. (2020b) which found online peer support clinically effective in the treatment of serious mental illness. In addition, DDA members overwhelmingly agreed that online meetings should continue in some form after the end of lockdown. This finding corresponds with a review from Davies et al. (2020) which suggests service providers favor a blend of online and in-person therapy going forward post-pandemic.

The qualitative analysis is in line with the quantitative findings. Overall, DDA members reported more advantages and fewer disadvantages of online meetings. Convenience and accessibility were the most prominent advantages, whereas lack of physical contact, technological error, and improper meeting etiquette stood out as disadvantages.

In terms of convenience, participants listed benefits such as “easy to access” and “I can stay in the comfort of my own home.” However, specific factors were also mentioned, for example DDA members with a disability, chronic illness, or severe mental illness especially appreciated the convenience of online meetings. The second theme, accessibility, largely related to the expansion of DDA’s service. Established members mentioned the benefit of meeting new people and exploring DDA groups in other areas, and new members appreciated the opportunity to join DDA from outside its usual service areas. These findings coincide with recent research in which mental health practitioners identified convenience, accessibility, and flexibility as benefits of online care (Feijt et al., 2020).

As for the disadvantages, many DDA members reported no drawbacks to online meetings. However, for those who did report a disadvantage the primary theme was lack of physical contact. Interestingly, many participants specifically mentioned “hugging” as an activity they missed. The second theme was technological problems—regarding glitches in the program and user error. This disadvantage may be compounded by findings from a recent study from Pywell et al. (2020) in which technological problems in online care were especially prominent among older individuals. The third theme, improper meeting etiquette, involved intentional and unintentional annoyances including disrupting the meeting or accidentally “un-muting” oneself. Only two participants mentioned lack of privacy as a disadvantage—indicating that most people did not feel concerned about issues relating to digital privacy.

Regarding the lockdown itself, most respondents mentioned isolation as the most significant disadvantage. This finding agrees with a recent study by Bu et al. (2020) which determined pre-existing mental illness as a risk factor for loneliness during the onset of the lockdown in the UK. The second most significant disadvantage was the disruption of normal daily routines, which similarly disproportionately affects vulnerable individuals (Hou et al., 2020). Notably, when asked to report potential benefits to being in lockdown the primary advantage was attendance of online meetings. In fact, a previous study about DDA (Milani et al., 2020) found that the program was instrumental in helping members break out from isolation and introduce a routine in their lives. Therefore, the present study suggests that moving to online meetings did not affect these two functions of the DDA program.

In terms of general support during the lockdown, online meetings from both DDA and other mutual aid groups were the most prevalent forms of help sought for mental health issues. Individual communications with group facilitators as well as between members were also highly prevalent.

Most participants received more than one form of support, for example individual therapy, outside mental health services, sponsorship, or family. However, online meetings were the most helpful resource for DDA members.

The facilitator interview provided key insight into the experience of DDA members who did not participate in online meetings. Firstly, there are two reported reasons for non-participation in online meetings: lack of access to a “smart” device or internet connection due to financial struggle, and paranoia or suspicion towards technology due to ongoing mental illness. These findings coincide with a recent review by Arnold et al. (2021) suggesting both severe mental illness and positive symptoms of psychosis are associated with decreased internet engagement. Secondly, during the pandemic non-participating members have been experiencing worsened mental health, relapse of their addictions, and further financial concerns due to job loss. However, the most prominent challenge faced by non-participating members was isolation. Individuals in DDA are prone to loneliness (Milani et al., 2020) and this loneliness has been exacerbated by social distancing measures. Interestingly, non-participating members have also expressed a sense of isolation from other DDA members due to their inability to attend online meetings. This information coincides with recent research suggesting the pandemic has been deepening digital inequality (Beaunoyer et al., 2020). As such, the UK facilitator has been speaking with these members over the phone to maintain their recovery and promote wellbeing. However, they were not receiving support from other mental health organizations, and unlike online-participating DDA members, they have not reported any positive aspect to being in lockdown.

This study has several limitations. Firstly, the sample size in the UK was significantly smaller than that in the US. Additionally, the length, severity and specific parameters of the lockdown differed between cities in both the US and the UK, which may have influenced how respondents interpreted the survey questions. The difference between lockdown and later rules was also not elaborated in the survey due to the rapidly evolving global COVID-19 restrictions. The scale used to measure inclusion was adapted, and is not validated in the dual diagnosis population. Non-response was present for the survey as a whole, and participants may have experienced survey fatigue. As described in Torvik et al. (2012), alcohol use and mental distress have been found to indicate higher levels of survey non-response. Additionally, questions regarding in-person meetings were retrospective, which allowed for potential bias in participants’ recollection of previous meetings. Lastly, respondents may have experienced bias in favor of online meetings due to recruitment through online DDA meetings. However, alternate recruitment channels (i.e. DDA Facebook, website and WhatsApp) attempted to mitigate this potential bias. The facilitator interview was similarly conducted to broaden the study’s scope, but limitations may remain.

This study was exploratory, and the findings raise further questions regarding distance support, the lockdown, DDA, and integrated care. In a clinical trial surrounding online support and depression, researchers found self-reported improvements in anxiety, support satisfaction, self-management, and health literacy among users of online support (Salisbury et al., 2016). Future research should further investigate the clinical effectiveness of online support in reducing the symptoms of mental illness and substance use. It is also necessary to further explore the challenges and ongoing consequences experienced by individuals with dual diagnosis during the pandemic. Special attention should be paid to the effects of isolation as social distancing measures have been found to correlate with depression and anxiety, especially for those with a pre-existing mental illness (Marroquin et al., 2020; Fancourt et al., 2020). Lastly, peer support has been found to reduce substance use and overall symptoms for individuals with SUD, as well as effectively promote recovery in both bipolar disorder and depression (Eddie et al., 2019; Behler et al., 2017). As such, future research should consider the clinical effectiveness of DDA as a whole, and the possibilities of integrated peer support in the treatment of concurrent disorders. The prompt shift to online meetings demonstrated the ability of the program to quickly adapt to the changing circumstances.

Despite the above limitations, this study has contributed to the growing body of research surrounding COVID-19. Specifically, our findings provide crucial knowledge, as dual diagnosis is generally under-researched and under-treated, despite the vulnerability of the population. Additionally, online support became the standard of care without an adequate understanding of its efficacy as a platform for therapeutic treatment. These preliminary findings suggest that online meetings are a valuable resource for individuals with complex needs. Throughout the pandemic and its lockdown, online meetings provided essential support for both new and regular DDA members. It is recommended that in the future, when standard treatment has returned, online meetings should continue as a supplementary feature of DDA and other mutual aid programs, due to their potential for convenience, accessibility, and inclusivity. The advantages of distance support may complement the physical intimacy of in-person care. Epidemiologists agree that COVID-19 is here to stay, with some scientists predicting that it will affect us until 2025 and beyond (Scudellari, 2020), hence online services will inevitably play a larger role in mental health treatment going forward, and our findings suggest its inclusion may expand the scope of therapeutic care, and who it can reach.

#### **Conflict of Interest**

There is no conflict of interest.

#### **Availability of data and materials**

Data will be made available upon reasonable request.

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**Ethics statement**

The study has been approved by the Ethics Committee at the university of west London and complies with the ethics requirements of the British Psychological Society.

**Authors' contributions**

RM Milani: concept, funding application, ethics application, study design, development of the questionnaires and interview schedule, analysis, interpretation of results, contributed to writing up and revision  
 Annalise Keller: development of the questionnaires, data collection, conducted the qualitative interviews, analysis, writing up and revision  
 Sean Roush: concept, study design, development of the questionnaires, interpretation of findings, contributed to the writing up and revision

**Author Note**

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