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International REACH forgiveness intervention: a multisite randomised controlled trial

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ABSTRACT

Objectives To determine whether a brief self-directed forgiveness workbook intervention could alter forgiveness, depression symptoms, and anxiety symptoms.

Design A multisite randomised waitlist-controlled trial was conducted among 4598 participants. Recruitment occurred from 11 February 2020 to 30 September 2021. Final follow-up occurred on 25 October 2021.

Setting Participants were recruited from community-based samples in sites in Colombia, Hong Kong, Indonesia, South Africa, and Ukraine.

Participants Individuals (n=7837) were screened for eligibility. For inclusion, participants needed to be ≥18 years and have experienced an interpersonal transgression. The analytic sample consisted of n=4598 participants, median age 26 and 73% female.

Interventions At each site, participants were randomly assigned to either immediate receipt of a self-directed forgiveness workbook intervention, or to receipt after a 2 week delay.

Main outcomes measures The primary outcomes were unforgiveness (Transgression-Related Interpersonal Motivations Inventory-18), depression symptoms, and anxiety symptoms (Brief Symptom Inventory-18) measured at 2 weeks following intervention assignment.

Results At 2 weeks follow-up, unforgiveness was lower among the immediate-treatment group compared with the delayed-treatment group (standardised mean difference=−0.53 (95% CI=−0.58 to −0.47)); similar patterns were found for depression (standardised mean difference=−0.22 (95% CI=−0.28 to −0.16)) and anxiety symptoms (standardised mean difference=−0.21 (95% CI=−0.27 to −0.15)).

Conclusions A brief workbook intervention promoted forgiveness and reduced depression and anxiety symptoms. The promotion of forgiveness with such workbooks has the potential for widespread dissemination to improve global mental health.

Trial registration number NCT04257773.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Forgiveness interventions have been shown in prior randomised trials to reduce depression and anxiety symptoms, but most such interventions require trained therapists or counsellors.

WHAT THIS STUDY ADDS

⇒ We conducted a multisite randomised waitlist-controlled trial of a self-directed forgiveness workbook intervention among 4598 participants in Colombia, Hong Kong, Indonesia, South Africa, and Ukraine to evaluate whether such a workbook, without requiring trained therapists, could be helpful. Randomisation to immediate receipt of the forgiveness workbook resulted in reductions in unforgiveness (−0.53 standardised mean difference), depression symptoms (−0.22), and anxiety symptoms (−0.21) compared with delayed receipt of the workbook.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Since a brief self-directed workbook intervention was effective at promoting forgiveness and reducing depression and anxiety symptoms, it could be widely disseminated and used as a supplemental therapeutic and preventive approach to improve global mental health.

Mental health disorders contribute substantially to the global burden of disease.[1] While advances in both pharmacologic and psychotherapeutic treatment have been notable, mental health burden remains high.[1 2] New supplementary approaches to improve mental health may complement more traditional treatment modalities.[2 3]

One promising supplementary approach concerns interventions to promote forgiveness. Evidence from observational studies and

randomised trials suggests interventions to help people who would like to forgive someone who has wronged them are effective both at promoting forgiveness and also at alleviating anxiety and depression.[4–8] While most forgiveness interventions require a trained therapist, workbook interventions are also now available.[9] Because these can be utilised without therapeutic supervision, their potential for dissemination is substantial.[10] Small randomised trials have suggested these workbook interventions have moderate effects on forgiveness, but their effects on depression, anxiety, and other outcomes are unknown.[9 11] Prior workbooks also required 7 hours to complete, and completion rates were sometimes low.[9 11]

We carried out a preregistered, multisite randomised waitlist-controlled trial using samples from Colombia, Hong Kong, Indonesia, South Africa, and Ukraine, to evaluate the effects of a workbook intervention on forgiveness and on depression and anxiety symptoms.

METHODS

The randomised trial, along with the study protocol and methods, was preregistered (https://osf.io/r9z34?view_only=52360cf7023f470898d9f11892d7d16a). All materials, data, and analysis code will be publicly released (https://osf.io/f34jp/) following embargo ending 30 April 2024, though materials can be accessed earlier for evidence synthesis, or reproducibility.

Trial design

A multisite randomised waitlist-controlled trial design was employed as it was thought unethical to entirely withhold materials which prior evidence suggested would be at least somewhat beneficial.[4 5] The first author and Principal Investigator obtained approval by the Human Subjects Ethics Committee of the City University of Hong Kong (reference no. 2-2-201907-01), and each additional site obtained ethical approval from an institutional review board within country. These include IRB approval from Ethics Research Committee at the University of Pretoria (protocol number: T070/19) and the General Human Research Ethics Committee at the University of the Free State (protocol number: UFS-HSD2019/2259/0212) for South Africa; Central Investigation Committee of Universidad del Sinú (protocol number: 006) for Colombia; Ukrainian Institute of Arts and Sciences Ethics Committee (protocol number: 004) and REALIS (protocol number: G0119) for Ukraine; and Nusantara Scientific Psychology Consortium (protocol number: 007/2020 Etik/KPIN) for Indonesia. Participants in each site were randomised by computer-generated random numbers to immediate-treatment or delayed-treatment. The delayed-treatment group received the workbook 2 weeks after the immediate-treatment group. Participants were instructed to complete the workbook within 2 weeks, either by paper-and-pencil or web-based platform (method differed across sites). Participants were surveyed three times: prior to randomisation (T_1), after the initial 2 week period but before the delayed-treatment group received the workbook (T_2), and 2 weeks after the delayed-treatment group received the workbook (T_3). Data collection at each time occurred within 3–5 days (the window varied by site) of the target 2 week date.

Participants

For inclusion, participants needed to be ≥18 years and have experienced an interpersonal transgression. Participants were recruited from six sites: Hong Kong, Indonesia, two Ukraine sites, Colombia, and South Africa. The countries selected had each experienced civil conflict or unrest in the recent past. At preregistration, the study included a site in Ghana, but no participants were ultimately enrolled at this site. Each site recruited participants from communities of their choice, including students at designated university campuses (Colombia subsite, Ukraine site 1 (supplemented with members of a Christian church)), survivors of war (Colombia subsite), members of a Christian church (Ukraine site 2), and members of the general public (Hong Kong, Indonesia, South Africa).

Site directors engaged one or more local contacts (eg, community leaders, university administrators, leaders of religious communities, leaders of non-government organisations, and well-established survey research organisations) to assist with identifying potential participants, and used trained research assistants to recruit participants, provide instructions to participants, and collect data. All participants were provided a nominal financial incentive to complete the self-report survey at all three time points.

At each site, participants were instructed to recall a previous transgression (eg, 'Please think about someone who has deeply hurt or offended you. Without writing their name, write a brief description of what the person did to hurt or offend you'). Pilot data involving most of the sites included in this study suggest that among the most common types of transgressions that participants tend to describe are inappropriate communication or harassment (14.1%), sabotage of social connections or defamation of reputation (8.6%), and accusations or moral affronts (7.5%), and that friends (17.9%), romantic partners or spouses (16.7%), and non-spouse family members (14.4%) are among the most frequently identified perpetrators of recalled transgressions.[12]

Patient and public involvement

Results will be disseminated to study participants after publication and the self-guided workbook will be made freely and publicly available in all languages into which it has been translated for the study. However, participants were not otherwise involved in the design of the study.

REACH forgiveness intervention

The REACH Forgiveness[8] intervention is an evidence-based approach to promote forgiveness. It has been adapted into a self-guided workbook,[9] and a web-based format.[11] The present workbook adapts the previously

tested 7 hour workbook,[9] selecting 2–3 hours of exercises thought most likely to promote forgiveness based on practical and theoretical considerations. Each letter of REACH constitutes a step: R=*r*ecall the hurt; E=*e*mpathise with the offender; A=give an *a*ltruistic, undeserved gift of forgiveness; C=*c*ommit to forgiveness experienced; and H=*h*old onto forgiveness. The workbook involves nine components. Participants (1) describe the hardest transgression successfully forgiven, (2) identify a target transgression to try to forgive, (3) complete assessments of their forgiveness, (4) define two types of forgiveness (decisional and emotional), (5) learn the relational, psychological, and physical benefits of forgiving, (6) work through five steps (REACH) of emotional forgiveness, (7) consider a decision to forgive, (8) complete a 12-step generalisation protocol to widen applicability beyond the target transgression, and (9) assess forgiveness of the target transgression and compare it to the original assessment (workbook assessments were not used as formal outcomes).

Outcomes

We preregistered three primary and four secondary outcomes. The primary outcomes were unforgiveness (Transgression-Related Interpersonal Motivations Inventory-18),[13] depression symptoms, and anxiety symptoms (Brief Symptom Inventory-18).[14] The secondary outcomes were decisional forgiveness (Decision to Forgive Scale),[15] forbearance (Forbearance Scale-Short Form),[16] flourishing (Secure Flourishing Index),[17] and trait forgivingness (Trait Forgivingness Scale).[18] Further details about each measure are in online supplemental text 1.

Statistical methods

We conducted statistical analyses in R, V.4.2.0. All sites achieved >70% retention at T_2 (a preregistered criterion for sites' inclusion in analyses). Unless otherwise indicated, all analyses were conducted using multiple imputation by chained equations for all variables with missing data. We imputed data using predictive mean matching and with the data set in wide format to account for correlation within subjects.

Analyses were conducted on an intention-to-treat basis. All reported outcomes employed standardised mean differences (SMDs).

Primary analysis

For each primary outcome, we fit a generalised estimating equations (GEE) model regressing subjects' T_2-outcomes on intervention group (immediate-treatment vs delayed-treatment). This model included fixed effects of site and no other covariates. Because this model included no site-by-treatment-group interaction terms, the estimated effect represents the average across all sites, not the effect within any given site.

Secondary analysis

Secondary outcomes

We refit the GEE model to each of the four secondary outcomes.

Effect heterogeneity

To investigate effect modification by trait forgivingness, we refit a preregistered GEE model for each primary outcome after including a T_1-trait-forgivingness-by-treatment-group interaction term. To investigate whether effects differed across sites, we refit preregistered GEE models for each primary outcome after including site-by-treatment-group interactions. We used a harmonic mean p-value[19] for each primary outcome to aggregate p-values for site-by-treatment-group interaction terms, yielding a global test of interaction.

We used the Bonferroni-Holm correction for multiple testing for the 10 secondary analyses: four secondary outcomes and six effect heterogeneity analyses for primary outcomes (two heterogeneity analyses per outcome).

Additional analyses

Sensitivity analysis for model specification

We refit the GEE model for each primary outcome while controlling also for precision covariates (age, sex, T_1-baseline values of primary outcomes, and site).

Sensitivity analysis for treatment effect modelling

We conducted two analyses with T_3 data to estimate effectiveness under assumptions stronger than randomisation alone. First, we fit an ordinary-least-squares model for each primary outcome including treatment-group-by-wave interactions. Although we had prespecified a 2×3 repeated-measures analysis of variance (ANOVA, treatment-group×wave) model, this specification within site was not estimable. The model we fit is equivalent to a standard ANOVA. Second, we used GEE to regress each primary outcome on a time-varying indicator of having received the workbook. We also conducted a posthoc analysis with T_3 data that refit the aforementioned GEE model, with waves considered continuous, rather than categorical, thereby assuming that any secular trends were linear.

Effect maintenance over time

We examined outcome maintenance at T_3. One subsite in Colombia obtained T_2 data but was unable to obtain T_3 data due to the COVID-19 pandemic; this subsite was posthoc excluded from analyses using T_3 data. For each primary outcome, we estimated the proportion of the estimated improvement between T_1 and T_2 for the treated participants that was sustained at T_3.

RESULTS

Participant flow through the RCT is presented in figure 1 (individual sites in online supplemental figures S1-S7). Participants were enrolled from 11 February 2020 to 30

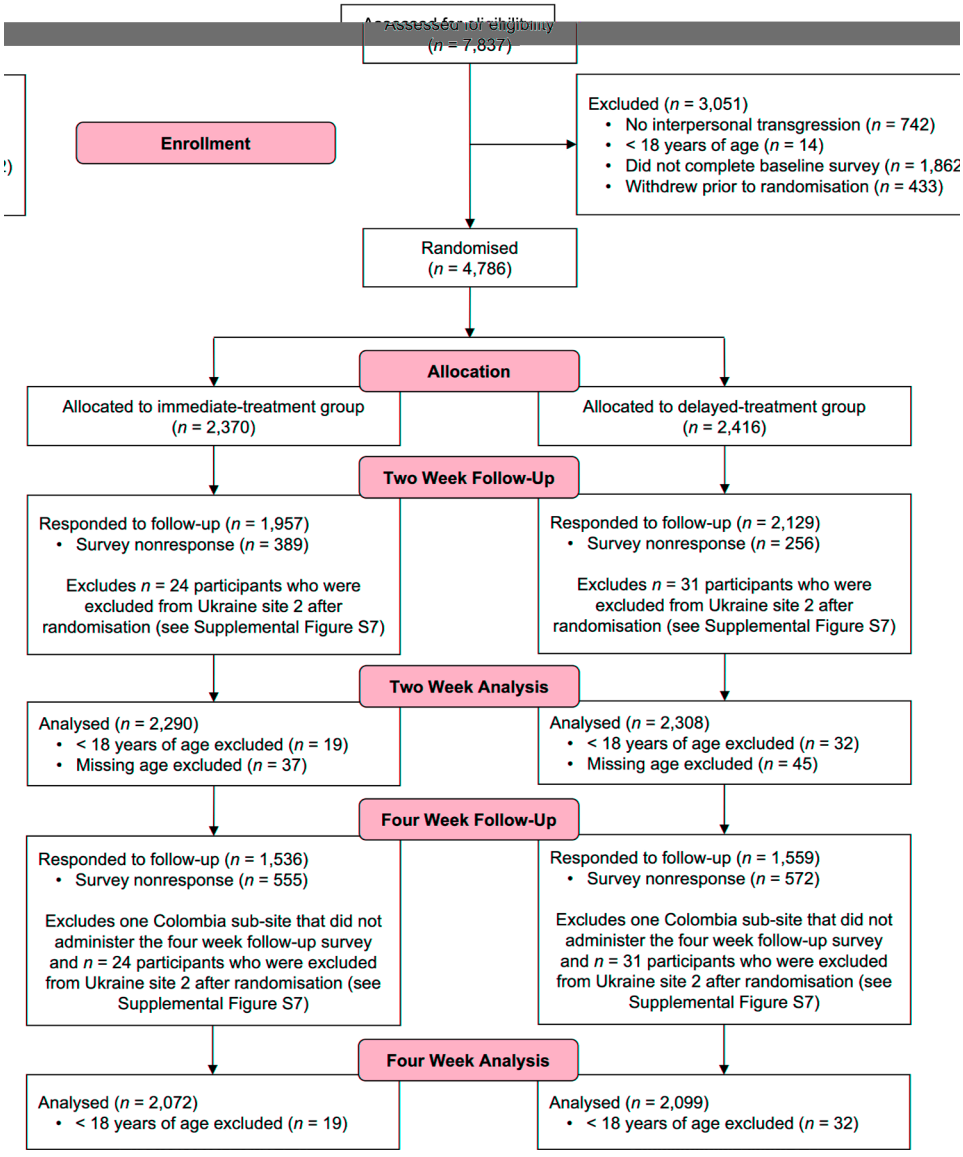

Figure 1 CONSORT flow diagram of participants included in the study. CONSORT, Consolidated Standards of Reporting Trials.

September 2021 (online supplemental figures S1-S7), and follow-up data collection was completed by 25 October 2021.

Individuals (n=7837) were screened for eligibility. 4786 were randomised to immediate-treatment (n=2370) or delayed-treatment (n=2416). Ukraine site-2 excluded 55 individuals after randomisation for suspicious/fraudulent online participation (online supplemental figure S7). Prior to performing analyses, a post-hoc decision was made to exclude participants (n=51) who were below 18 years or did not report age (n=82). Hence, the analytic sample (n=4598) included n=2290 participants in the immediate-treatment group and n=2308 participants in the delayed-treatment group.

Baseline sociodemographic characteristics are given in table 1 (and by site in online supplemental tables S1–S6) with similar distributions across treatment groups. Participants in both groups were mostly younger (immediate-treatment, *median*=26; delayed-treatment, *median*=26), female (immediate-treatment, 73%; delayed-treatment, 75%), with secondary education or higher (immediate-treatment, 87%; delayed-treatment, 87%), religiously affiliated (immediate-treatment, 76%; delayed-treatment, 77%), with above-average household income (immediate-treatment, 63%; delayed-treatment, 62%), and in a relationship or married (immediate-treatment, 55%; delayed-treatment, 55%).

Means and SD of primary outcomes by wave and treatment group are given in online supplemental table S7. In table 2, we present results of GEE models for effects on primary T_2 outcomes. Unforgiveness was lower among the immediate-treatment compared with the delayed-treatment participants (SMD=−0.53, 95% CI=−0.58 to −0.47). A similar pattern was found for depression symptoms (SMD=−0.22, 95% CI=−0.28 to −0.16) and anxiety symptoms (SMD=−0.21, 95% CI=−0.27 to −0.15),

Table 1 Baseline sociodemographic characteristics of participants in the immediate-treatment and delayed-treatment groups

Characteristic	Immediate-treatment group (n=2290)	Delayed-treatment group (n=2308)
Age (years), *Mdn* (IQR)	26 (21, 38)	26 (21, 39)
Gender, *n* %		
Female	1678 (73%)	1722 (75%)
Male	606 (26%)	583 (25%)
Other	5 (<1%)	2 (<1%)
Not reported	1 (<1%)	1 (<1%)
Race/ethnicity, *n* %		
Asian	532 (23%)	524 (23%)
Black African	446 (19%)	436 (19%)
Coloured	12 (<1%)	9 (<1%)
Indian	1 (<1%)	1 (<1%)
White	324 (14%)	374 (16%)
Other	0 (0%)	2 (<1%)
Not reported	975 (43%)	962 (42%)
Education, *n* %		
Some secondary education or below	287 (13%)	302 (13%)
Completed secondary education	1052 (46%)	1138 (49%)
Some postsecondary education or higher	948 (41%)	864 (37%)
Not reported	3 (<1%)	4 (<1%)
Household income, *n* %		
1 SD below average	857 (37%)	878 (38%)
Average	910 (40%)	899 (39%)
1 SD above average	345 (15%)	341 (15%)
3 SD above average	166 (7%)	179 (8%)
Not reported	12 (<1%)	11 (<1%)
Religiously affiliated, *n* %		
Yes	1749 (76%)	1784 (77%)
No	532 (23%)	510 (22%)
Not reported	9 (<1%)	14 (<1%)
Marital status, *n* %		
Divorced	93 (4%)	107 (5%)
In a relationship	509 (22%)	478 (21%)
Married	752 (33%)	780 (34%)
Separated	17 (<1%)	19 (<1%)
Single	866 (38%)	862 (37%)
Widowed	47 (2%)	59 (3%)
Not reported	6 (<1%)	3 (<1%)
Unforgiveness, *Mn (SD)*	50.37 (16.00)	51.11 (15.89)
Depression symptoms, *Mn (SD)*	8.79 (6.24)	8.60 (6.23)
Anxiety symptoms, *Mn (SD)*	8.31 (6.59)	8.33 (6.66)

Cumulative percentages may not add up to 100% due to rounding. Unforgiveness, depression symptoms, and anxiety are raw sums of scale items prior to standardisation.
Mdn, median; Mn, mean.

Table 2 Estimated effectiveness of workbook intervention on primary outcomes

Outcome	β (95% CI)	P value
Unforgiveness	−0.53 (−0.58 to 0.47)	<0.001
Depression symptoms	−0.22 (−0.28 to 0.16)	<0.001
Anxiety symptoms	−0.21 (−0.27 to 0.15)	<0.001

β, estimated difference in standardised primary outcome measure for the immediate-treatment vs delayed-treatment conditions.

although effect sizes were smaller. Results were similar after adjusting for precision covariates (online supplemental table S8), and in sensitivity analysis with exposure modelled as categorical or continuous time-varying (online supplemental tables S9 and S10).

Results of GEE models for secondary T_2 outcomes (table 3) indicated effects on decisional forgiveness (SMD=0.47, 95% CI=0.42 to 0.53), forbearance (SMD=0.34, 95% CI=0.29 to 0.40), flourishing (SMD=0.27, 95% CI=0.22 to 0.33), and trait forgivingness (SMD=0.39, 95% CI=0.33 to 0.45).

Effect estimates testing heterogeneity by trait forgivingness and site are reported in figure 2 (online supplemental table S11). The direction of effect estimates gave some evidence that effects on unforgiveness (p=0.041), depression symptoms (p=0.016), and anxiety symptoms (p=0.011) were larger among those below the median on baseline trait forgivingness, although none of these results passed a p=0.05-threshold after multiple-testing correction. Global tests of treatment-by-site interactions suggested some heterogeneity of effects across sites for unforgiveness (p=0.004) and depression symptoms (p=0.027), but not anxiety symptoms (p=0.278), though the p=0.05-threshold after multiple-testing correction was only passed for unforgiveness.

Global p-values from the ANOVA sensitivity analysis indicated that the two groups differed in patterns of change over time (ps<0.001). Both groups showed improvements in each primary outcome following receipt of workbook (online supplemental figure S8 and S9). Improvements in unforgiveness in the immediate-treatment group between T_1 and T_2 were fully maintained between T_2 and T_3 (estimated 100% of change maintained), and depression and anxiety symptoms in fact continued to improve between T_2 and T_3, by an additional 43% and 47%, respectively. There was also evidence of modestly improving secular trends across the primary outcomes, as manifested in mean differences in T_1 and T_2 outcomes for the delayed-treatment group (unforgiveness: SMD=−0.16, 95% CI=−0.19 to −0.12; depression symptoms: SMD=−0.19, 95% CI=−0.23 to −0.16; anxiety symptoms: SMD=−0.19, 95% CI=−0.23 to −0.16).

Table 3 Estimated effectiveness of workbook intervention on secondary outcomes

Outcome	β (95% CI)	P value
Trait forgivingness	0.39 (0.33 to 0.45)	<0.001
Forbearance	0.34 (0.29 to 0.40)	<0.001
Decisional forgiveness	0.47 (0.42 to 0.53)	<0.001
Secure flourishing	0.27 (0.22 to 0.33)	<0.001

All p-values<0.05 before and after Bonferroni-Holm correction for all secondary tests reported in table 3 (in table 3 and figure 2 the initial p-value cut-off for Bonferroni-Holm correction was 0.05/10=0.005).
β, estimated difference in standardised secondary outcome measure for the immediate-treatment vs delayed-treatment conditions.

DISCUSSION

In this multisite randomised waitlist-controlled field trial, we evaluated effects of a self-directed forgiveness workbook intervention, considered as a supplemental approach to improve mental health, as therapist-guided forgiveness interventions have found collateral reductions in depression and anxiety.[4 5]

Results indicated that after 2 weeks, the workbook had effects on forgiveness, depression, and anxiety symptoms, and well-being assessments. This is the first randomised trial to examine effects of a self-directed forgiveness workbook intervention on mental health outcomes, the first across cultures, and the first to evaluate a 2–3 hour version of the workbook. The sample size of the present multicountry study is larger than the total sum of all prior forgiveness randomised trials combined, both therapist-guided and workbook forms, documented through the most recent systematic review.[4 5] The workbook intervention has several further strengths. It is short, self-directed, easily disseminated, available in multiple languages, and freely available. It thus holds considerable potential for promoting interpersonal forgiveness, mental health, and well-being.[10]

Prior forgiveness workbook interventions employing the REACH Forgiveness model[8] required 7 hours.[9 11] When progress was unmonitored, dropout rates were high.[11] The workbook employed here selected 2–3 hours of content, removing a barrier inhibiting completion.[20] Estimated effect sizes exceeded expectations given the intervention's length,[4] and were roughly equivalent to expected effects for a 7 hour workbook (standardised effect sizes on unforgiveness of −0.53 in this study vs −0.56 in the study of the 7 hour workbook).[4 9]

Because forgiveness interventions are not explicitly focused on depression and anxiety, they may circumvent some stigma associated with mental health interventions, perhaps especially in developing countries and in African-American communities in which both needs and stigma are high.[2 21] For some, forgiveness may be associated with religious practice (even though the workbook itself is secular) and thereby be more widely embraced than interventions focused on mental health; this may be the case across many of the world's religions.[22] Finally, the workbooks used in the present study are available

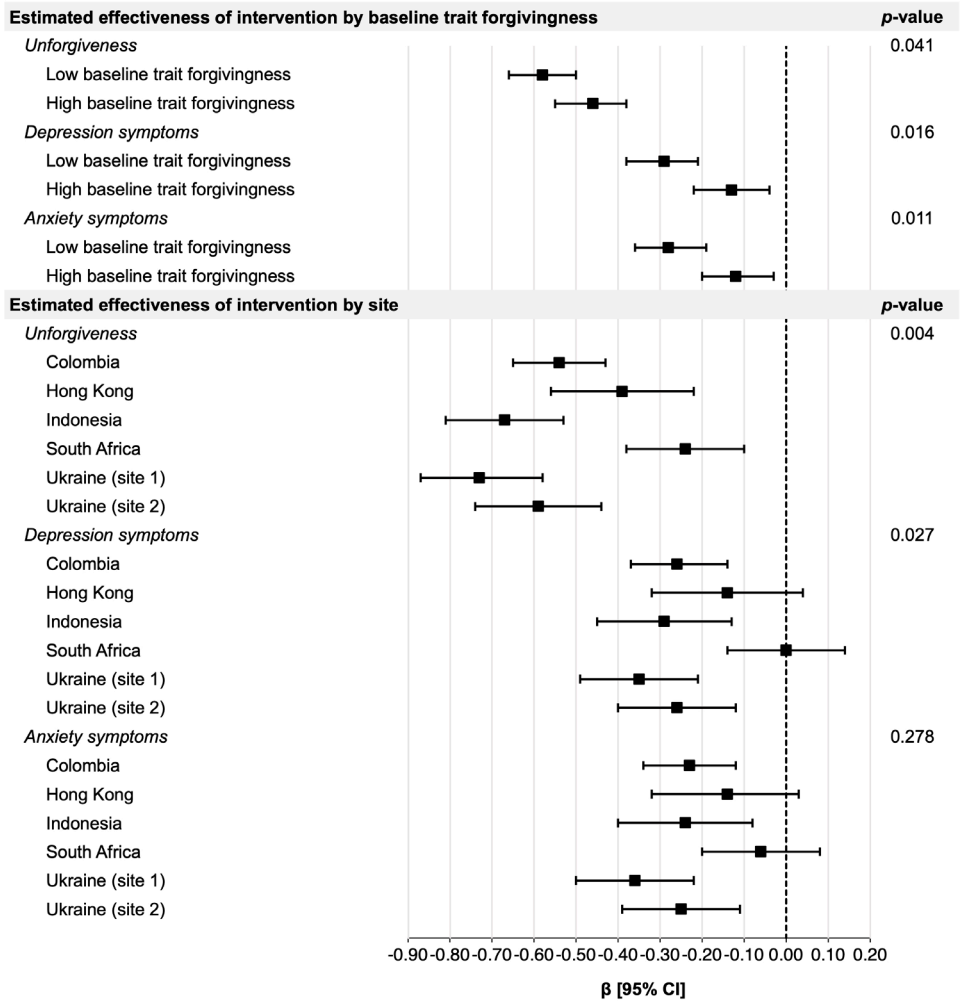

Figure 2 Forest plot of the estimated effectiveness of the intervention on the primary outcomes by baseline trait forgiveness and intervention site.

in English, Spanish, Mandarin, Russian, Ukrainian, and Indonesian, making them accessible without cost to more than two-thirds of the world's population in their native language.

Global mental health practitioners have attempted to reduce gaps in mental health treatment[23] in several ways including aligning treatment content with prevalent illness beliefs, delivering treatments in accessible settings, using non-specialist providers to deliver treatments to more people, and using transdiagnostic methods to avoid too narrowly focusing on a particular disorder. The REACH Forgiveness workbook meets each of these suggested recommendations. Instead of focusing on depression and anxiety, engagement centres on forgiveness. Instead of delivering treatment in clinical centres, workbooks can be accessed through phone, computer, or print and taken home. Instead of using specialist providers, service providers are removed except in distributing workbooks and possibly providing encouragement to complete them. Finally, although forgiveness is the focus, engagement can also alleviate depression and anxiety.

Given the ease of dissemination, the forgiveness workbook could also be considered a supplementary treatment approach both for mental health professionals and for trained community health workers. Clinicians, counsellors, and community health workers could, during the course of care, inquire about whether the patient is struggling with an interpersonal transgression. If the patient would like assistance with forgiveness, the workbook could be provided. The workbook is not a substitute for other forms of care, but rather, a time-efficient adjunct.

The workbook also holds potential for public health and prevention efforts.[10] Being wronged is a common experience. Evidence here and elsewhere[4–7] indicates forgiveness interventions can reduce depression and anxiety symptoms. Given the ease with which such workbooks can be disseminated, national and international forgiveness campaigns could be launched to promote forgiveness and thereby also address mental health concerns.

In dissemination efforts, questions concerning whether forgiveness is morally appropriate also need to be addressed. In this, it is important to distinguish forgiveness

from excusing, forgetting, reconciling, forbearing, or not demanding justice.[8 24–26] Forgiveness, conceived of simply as replacing ill-will towards the offender with good-will, can take place even while still pursuing a just outcome, and also without necessarily restoring the relationship. Thus, provided the victim does not deny the wrong that was done or its implications or deny or suppress feelings about it, arguments have been advanced that forgiveness—understood as the replacing of ill-will towards the offender with good-will—can always be morally appropriate and can take place regardless of whether the wrongdoer repents or asks for forgiveness.[25] Forgiveness does not entail foregoing justice. These distinctions are critical esspecially if forgiveness is promoted in clinical or community settings. Forgiveness may also have broader societal implications. Forgiveness, by replacing ill-will towards another with good-will, may prompt more prosocial action that may itself propagate, thereby potentially helping to heal division.[27 28]

Several study limitations merit attention. First, the study did not examine the effects on others in the community. Second, there was considerable heterogeneity in the samples across sites making the interpretation of direct comparisons difficult. However, evidence for treatment effects across most sites supports generalisability. Third, the workbook intervention, while translated, was not specifically culturally adapted, unlike some prior interventions.[29 30] Given that the study was conducted in a very diverse group of sites, differences in language and culture will affect the interpretation of constructs such as forgiveness or transgression. The intervention itself may well operate differently across contexts, and further cultural adaptations might enhance its efficacy in distinct cultural settings. Fourth, the effects are only definitively established for a 2 week follow-up. A randomised waitlist-controlled trial is unable to decisively evaluate effect maintenance because the waitlist-group eventually receives the intervention. Once the delayed-treatment group receives the intervention, a waitlist randomised design cannot distinguish between the maintenance of treatment effects versus secular trends. This is a limitation of the wait-list design. Further research could examine longer-term effect maintenance, which cannot be definitively established by randomisation in a waitlist trial. However, that the lower unforgiveness scores were maintained in the treatment group at T_3, and that depression and anxiety symptoms improved yet further gives some evidence for effect maintenance at 4 weeks post-treatment. Finally, the effect sizes of the forgiveness workbook on depression and anxiety, while meaningful, were smaller than those found in meta-analyses of cognitive-behavioural therapy[31] or other psychological treatments, but those employ more sessions over longer time periods.[20] The effect sizes for depression and anxiety were about half the size of those for forgiveness, which accords with prior studies.[4 7] Nevertheless, that the forgiveness workbook is free, easily disseminated, available in many languages, and requires limited time, and can be used as a supplement to formal psychotherapeutic treatment, further strengthens the case for its potential utility both in mental health treatment, and in prevention efforts.

In summary, in this multi-site randomised waitlist-controlled trial of a nominally 2 hour self-directed REACH Forgiveness workbook, the intervention was successful both at promoting forgiveness and improving mental health.

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Competing interests TJV reports receiving licensing fees from Flerish and Flourishing Metrics.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants. Each site obtained ethical approval from an institutional review board within country. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available in a public, open access repository. Data are available upon reasonable request. All materials, data, and analysis code will be publicly released (https://osf.io/f34jp/) following embargo ending 30 April 2024, though materials can be accessed earlier for evidence synthesis, or reproducibility.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been

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