

# International REACH forgiveness intervention: a multisite randomised controlled trial

Man Yee Ho,<sup>1</sup> Everett L Worthington,<sup>2</sup> Richard G Cowden,<sup>3</sup> Andrea Ortega Bechara,<sup>4</sup> Zhuo Job Chen ,<sup>5</sup> Elly Yuliandari Gunatirin,<sup>6</sup> Shaun Joynt,<sup>7</sup> Viacheslav V Khalanskyi,<sup>8</sup> Hennadii Korzhov ,<sup>9</sup> Ni Made Taganing Kurniati,<sup>10</sup> Nicole Rodriguez,<sup>11</sup> Anastasiya Anastasiya Salnykova,<sup>12</sup> Liudmyla Shtanko,<sup>13,14</sup> Sergiy Tymchenko,<sup>12</sup> Vitaliy L Voytenko,<sup>15</sup> Anita Zulkaida,<sup>10</sup> Maya B Mathur,<sup>16</sup> Tyler J VanderWeele <sup>17</sup>

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For numbered affiliations see end of article.

## Correspondence to

Dr Everett L Worthington; [eworth@vcu.edu](mailto:eworth@vcu.edu) and Dr Tyler J VanderWeele; [tvanderw@hsph.harvard.edu](mailto:tvanderw@hsph.harvard.edu)

## 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.<sup>1</sup> While advances in both pharmacologic and psychotherapeutic treatment have been notable, mental health burden remains high.<sup>1 2</sup> New supplementary approaches to improve mental health may complement more traditional treatment modalities.<sup>2 3</sup>

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.<sup>4-8</sup> While most forgiveness interventions require a trained therapist, workbook interventions are also now available.<sup>9</sup> Because these can be utilised without therapeutic supervision, their potential for dissemination is substantial.<sup>10</sup> Small randomised trials have suggested these workbook interventions have moderate effects on forgiveness, but their effects on depression, anxiety, and other outcomes are unknown.<sup>9,11</sup> Prior workbooks also required 7 hours to complete, and completion rates were sometimes low.<sup>9,11</sup>

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](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.<sup>4,5</sup> 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  $\geq 18$  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.<sup>12</sup>

### 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<sup>8</sup> intervention is an evidence-based approach to promote forgiveness. It has been adapted into a self-guided workbook,<sup>9</sup> and a web-based format.<sup>11</sup> The present workbook adapts the previously

tested 7 hour workbook,<sup>9</sup> 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=recall the hurt; E=empathise with the offender; A=give an altruistic, undeserved gift of forgiveness; C=commit to forgiveness experienced; and H=hold 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),<sup>13</sup> depression symptoms, and anxiety symptoms (Brief Symptom Inventory-18).<sup>14</sup> The secondary outcomes were decisional forgiveness (Decision to Forgive Scale),<sup>15</sup> forbearance (Forbearance Scale-Short Form),<sup>16</sup> flourishing (Secure Flourishing Index),<sup>17</sup> and trait forgivingness (Trait Forgivingness Scale).<sup>18</sup> 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<sub>2</sub> (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<sub>2</sub>-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<sub>1</sub>-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<sup>19</sup> 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<sub>1</sub>-baseline values of primary outcomes, and site).

#### Sensitivity analysis for treatment effect modelling

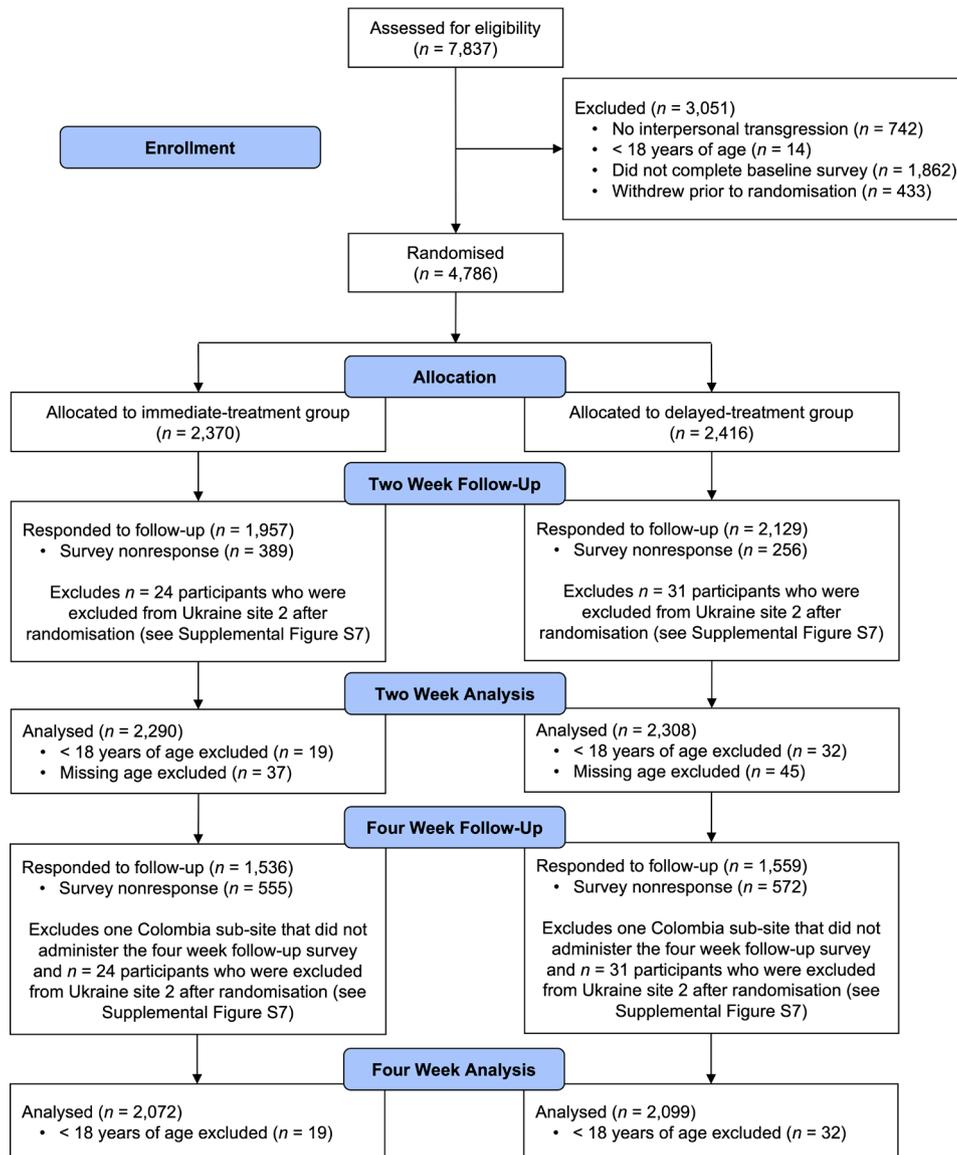
We conducted two analyses with T<sub>3</sub> data to estimate effectiveness under assumptions stronger than randomisation alone. First, we fit an ordinary-least-squares model for each primary outcome including treatment-group-by-wave interactions. Although we had prespecified a 2×3 repeated-measures 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<sub>3</sub> 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<sub>3</sub>. One subsite in Colombia obtained T<sub>2</sub> data but was unable to obtain T<sub>3</sub> data due to the COVID-19 pandemic; this subsite was posthoc excluded from analyses using T<sub>3</sub> data. For each primary outcome, we estimated the proportion of the estimated improvement between T<sub>1</sub> and T<sub>2</sub> for the treated participants that was sustained at T<sub>3</sub>.

## 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<sub>2</sub> 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), <i>Mdn</i> (IQR)	26 (21, 38)	26 (21, 39)
Gender, <i>n</i> %		
Female	1678 (73%)	1722 (75%)
Male	606 (26%)	583 (25%)
Other	5 (<1%)	2 (<1%)
Not reported	1 (<1%)	1 (<1%)
Race/ethnicity, <i>n</i> %		
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, <i>n</i> %		
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, <i>n</i> %		
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, <i>n</i> %		
Yes	1749 (76%)	1784 (77%)
No	532 (23%)	510 (22%)
Not reported	9 (<1%)	14 (<1%)
Marital status, <i>n</i> %		
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, <i>Mn</i> ( <i>SD</i> )	50.37 (16.00)	51.11 (15.89)
Depression symptoms, <i>Mn</i> ( <i>SD</i> )	8.79 (6.24)	8.60 (6.23)
Anxiety symptoms, <i>Mn</i> ( <i>SD</i> )	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	$\beta$ (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

$\beta$ , 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

**Table 3** Estimated effectiveness of workbook intervention on secondary outcomes

Outcome	$\beta$ (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  $0.05/10=0.005$ ).

$\beta$ , estimated difference in standardised secondary outcome measure for the immediate-treatment vs delayed-treatment conditions.

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).

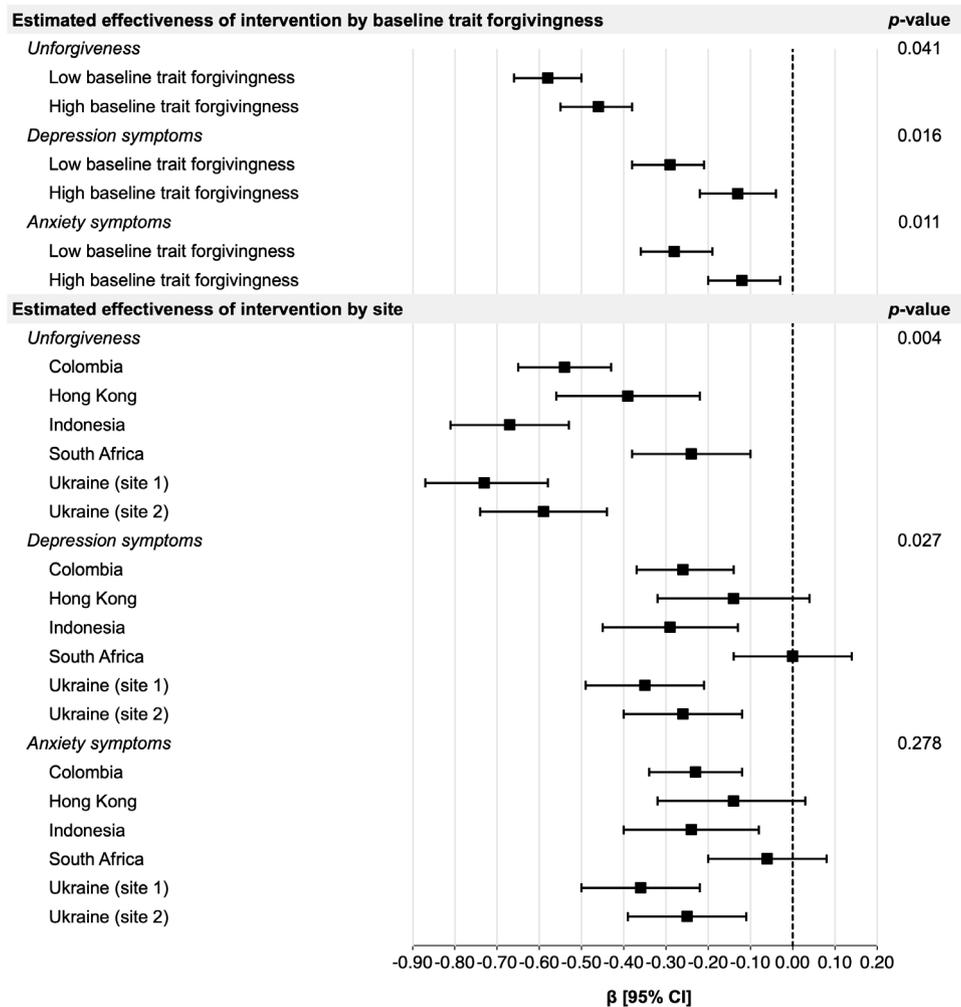
## DISCUSSION

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.<sup>4,5</sup>

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.<sup>4,5</sup> 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.<sup>10</sup>

Prior forgiveness workbook interventions employing the REACH Forgiveness model<sup>8</sup> required 7 hours.<sup>9,11</sup> When progress was unmonitored, dropout rates were high.<sup>11</sup> The workbook employed here selected 2–3 hours of content, removing a barrier inhibiting completion.<sup>20</sup> Estimated effect sizes exceeded expectations given the intervention's length,<sup>4</sup> 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).<sup>4,9</sup>

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.<sup>2,21</sup> 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.<sup>22</sup> 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<sup>23</sup> 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.<sup>10</sup> Being wronged is a common experience. Evidence here and elsewhere<sup>4-7</sup> 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.<sup>8 24–26</sup> 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.<sup>25</sup> Forgiveness does not entail foregoing justice. These distinctions are critical especially 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.<sup>27 28</sup>

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.<sup>29 30</sup> 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<sup>31</sup> or other psychological treatments, but those employ more sessions over longer time periods.<sup>20</sup> The effect sizes for depression and anxiety were about half the size of those for forgiveness, which accords with prior studies.<sup>4 7</sup> 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.

#### Author affiliations

<sup>1</sup>Shine Psychological Counseling Centre, Hong Kong, Hong Kong

<sup>2</sup>Department of Psychology, Virginia Commonwealth University, Richmond, Virginia, USA

<sup>3</sup>Harvard University, Cambridge, Massachusetts, USA

<sup>4</sup>Department of Psychology, Universidad del Sinú, Montería, Québec, Colombia

<sup>5</sup>University of North Carolina, Charlotte, North Carolina, USA

<sup>6</sup>Universitas Surabaya, Surabaya, Indonesia

<sup>7</sup>Department of Practical and Missional Theology, University of the Free State, Bloemfontein, South Africa

<sup>8</sup>Department of Pedagogy and Psychology, Ukrainian Institute of Arts and Sciences, Bucha, Ukraine

<sup>9</sup>Kyiv Polytechnic Institute, Kii, Ukraine

<sup>10</sup>Faculty of Psychology Universitas Gunadarma Jawa Barat, Depok, Jawa Barat, Indonesia

<sup>11</sup>Department of Psychology, Anastasiya Salnykova PhD Realis Christian Center for Education and Research, Kyiv, Ukraine

<sup>12</sup>Realis Christian Center for Education and Research, Kyiv, Ukraine

<sup>13</sup>Department of Economic Cybernetics, Finance and Management Ukrainian Institute of Arts and Sciences, Bucha, Ukraine

<sup>14</sup>Sergiy Tymchenko PhD Realis Christian Center for Education and Research, Kyiv, Ukraine

<sup>15</sup>Michigan State University College of Human Medicine, East Lansing, Michigan, USA

<sup>16</sup>Department of Pediatrics, Stanford University, Stanford, California, USA

<sup>17</sup>Harvard University T H Chan School of Public Health, Boston, Massachusetts, USA

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#### ORCID iDs

Zhuo Job Chen <http://orcid.org/0000-0003-0839-1627>

Hennadii Korzhov <http://orcid.org/0000-0001-5459-0702>

Tyler J VanderWeele <http://orcid.org/0000-0002-6112-0239>

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**Editorial Office:** [info.bmjph@bmj.com](mailto:info.bmjph@bmj.com)

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University of Oslo

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 [orcid.org/0000-0001-6285-3162](https://orcid.org/0000-0001-6285-3162)

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Chulalongkorn University

Bankok, Thailand

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Northeastern University

Boston, USA

 [orcid.org/0000-0001-8907-6420](https://orcid.org/0000-0001-8907-6420)

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Michigan, USA

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University of Sydney

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WHO

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**Dr Devaki Nambiar**

George Institute for Global Health

India

 [orcid.org/0000-0001-5682-6109](https://orcid.org/0000-0001-5682-6109)

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Senator of Pakistan

Pakistan

 [orcid.org/0000-0002-8311-6433](https://orcid.org/0000-0002-8311-6433)

**Dr Francis Ohanyido**

Faculty of Public Health

Nigeria

 [orcid.org/0000-0002-2445-2621](https://orcid.org/0000-0002-2445-2621)

**Dr Ebere Okereke**

Public Health in Africa

Nigeria

**Prof David Peiris**

George Institute for Global Health Australia

Barangaroo, Australia

 [orcid.org/0000-0002-6898-3870](https://orcid.org/0000-0002-6898-3870)

**Pablo Perel**

London School of Hygiene & Tropical Medicine

London, UK

 [orcid.org/0000-0002-2342-301X](https://orcid.org/0000-0002-2342-301X)

**Dr Parhas Pokarel**

BP Koirala Institute of Health Sciences Nepal

Dharan, Nepal

**Dr Maria de los Angeles Lazo Porras**

Cayetano Heredia University

Lima, Peru

 [orcid.org/0000-0003-0062-5476](https://orcid.org/0000-0003-0062-5476)

**Dr Laure de Preux**

Imperial College London

London, UK

 [orcid.org/0000-0002-1684-9397](https://orcid.org/0000-0002-1684-9397)

**Prof Gang Qin**

Affiliated Hospital of Nantong University

Jiangsu, China

 [orcid.org/0000-0002-4363-2572](https://orcid.org/0000-0002-4363-2572)

**Dr Karina Rando**

Minister of Public Health Uruguay

Uruguay

**Dr Million Tesfaye**

University of Oslo

Oslo, Norway

**Dr Irene Torres**

Fundacion Octaedro

Ecuador

 [orcid.org/0000-0002-0516-3090](https://orcid.org/0000-0002-0516-3090)

**Jasper Tromp**

University of Singapore

Queensland, Singapore

 [orcid.org/0000-0001-6043-0713](https://orcid.org/0000-0001-6043-0713)

**María Idoia Ugarte Gurrutxaga**

University of Castilla-La Mancha

Ciudad Real, Spain

 [orcid.org/0000-0003-2413-3628](https://orcid.org/0000-0003-2413-3628)

**Dr Clare Wenham**

London School of Economics

London, UK

 [orcid.org/0000-0001-5378-3203](https://orcid.org/0000-0001-5378-3203)

**Dr Kate Womersley**

George Institute for Global Health

London, UK

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---

Intended for healthcare professionals

[Home](#) / [Current Issue](#)

[< Prev Issue](#)

[Next Issue >](#)

# Current Issue

June 2024 - Volume 2 - 1

- [Original Research](#)
- [Protocol](#)
- [Review](#)
- [Short Report](#)
- [Correction](#)

## ORIGINAL RESEARCH

31 July 2024 • [Open access](#)

[Cost-effectiveness of screening for developmental dysplasia of the hip in Karachi, Pakistan using a universally applicable cost-effectiveness model](#)

Manon Pigeolet, Hesham Gaafar, Dana Naamani, Mansoor Ali Khan, Blake Christian Alkre, Muhammad Amin Chino, Daniel Scott Carlew, Eduardo N Novais

31 July 2024 • [Open access](#)

[Prevalence and progression of chronic kidney disease among adults undergoing creatinine testing in South African public healthcare facilities: a study leveraging data from South Africa's National Health Laboratory Service \(NHLS\)](#)

Alana T Brannan, Emma M Kileel, Siyabonga Khoza, Nigel J Crowther, Jacob Bor, Matthew P Fox, Sydney Rosen, Patricia Hibberd, Frederick Raal, Karmy Chetty, Koleka Mlisana, Jaya A George

31 July 2024 • [Open access](#)

## Health data management practice and associated factors among health professionals working in public health facilities in Oromia Special Zone, Amhara, Ethiopia: a cross-sectional study

Abdu Molla, Mulugeta Hayelom, Kidist Adamu, Mengistu Mera Mihiretu, Yonas Fissaha Adem

31 July 2024 •  Open access

## Barriers and leverage points for seeing alcohol differently in integrated care systems in England: a senior stakeholder interview study

Mary Madden, Duncan Stewart, Jim McCambridge

31 July 2024 •  Open access

## Economic burden of chronic obstructive pulmonary disease and post-tuberculosis sequelae in low- and middle-income countries: a database compiled from a systematic review and meta-analysis

Yuling Lin, Alexandra Walker, Marguerite Batta, Sierra Otilie-Kovelman, Anna Duchenko, Curdin Brugger, Olivia Keiser, Robert S Wallis, Klaus Reither, Fabrizio Tediosi, Marina Antillon

31 July 2024 •  Open access

## Assessing the long-term economic impact of wheezing episodes after severe RSV disease in children from Argentina: a cost of illness analysis

Julia Dvorkin, Clint Pecenka, Emiliano M Sosa, Andrea Sancilio, Karina Dueñas, Andrea Rodriguez, Carlos Rojas-Roque, Patricia B Carruitero, Ranju Baral, Elisabeth Vodicka, Fernando P Polack, Romina Libster, Mauricio T Caballero

29 July 2024 •  Open access

## Application of an integrated behaviour-change model on grandparental adherence towards childhood domestic injury prevention in Hong Kong: a longitudinal study

Roni Man Ying Chiu, Catherine M Capio, Martin S Hagger, Patrick S H Yung, Patrick Ip, Agnes Y K Lai, Derwin King Chung Chan

29 July 2024 •  Open access

## Assessment of knowledge, attitude and practice (KAP) on oral health among secondary-level students: a cross-sectional study in Kathmandu, Nepal

Anuja Rajbhandari, Nishika Aryal

29 July 2024 •  Open access

## Industry of employment and occupational class in relation to cardiovascular health by race/ethnicity, sex/gender, age and income among adults in the USA: a cross-sectional study

Jamie A Murkey, Symielle A Gaston, Dana M Alhasan, W Braxton Jackson, Chandra L Jackson

29 July 2024 •  Open access

## Prevalence and factors associated with depression and anxiety among patients recovered from COVID-19: a cross-sectional study in a tertiary care hospital in Nepal

Prasanna Rai, Biraj Man Karmacharya, Kamal Gautam, Shalik Ram Dhital, Shrinkhala Shrestha, Bandana Paneru, Kalpana Chaudhary, Akina Shrestha

27 July 2024 •  Open access

## Assessing the resilience of child immunisation programmes using geospatial modelling and interrupted time series analysis in Ethiopia and Kenya amidst the COVID-19 pandemic: tracking coverage and identifying key challenges

Chifuniro Somanje Mankhwala, Chimwemwe Chifungo, Themba Mzembe, Tabitha Ngwira, Maame B Peterson, McEwen Khundi, Nyovani Janet Madise, Michael Give Chipeta

24 July 2024 •  Open access

## Assessment of vitamin D-related knowledge, attitudes and practices among Sultan Qaboos University students in Oman: a cross-sectional study

Rahma Said Al Hadhrami, Rehab Al Kaabi, Hajer Juma Al Shuaibi, Rawan Salim Al Abdulsalam

24 July 2024 •  Open access

## Oral health-related knowledge, attitude and practices among nurses: a hospital-based questionnaire survey from a tertiary healthcare setting in Faridabad, India

Shilpa Khullar Sood, Megha Jain, Manu Raj, Sakshi Sharma

24 July 2024 •  Open access

## Impacts of the COVID-19 pandemic on HIV care and treatment services among adolescents attending a tertiary hospital in Dar es Salaam, Tanzania: a qualitative study

Eva Kidabulo, Lilian Nkinda, Dorkasi L Mwakawanga, Agricola Joachim

24 July 2024 •  Open access

## Characterising the killing of girls and women in urban settings in Latin America, 2000–2019: an analysis of variability and time trends using mortality data from vital registration systems

Bricia Gonzalez Trejo, Yvonne L Michael, Ana V Diez Roux, Brisa N Sánchez, Nina Sun, Heidi Stöckl, Dèsirée Vidaña-Perez, Catalina Correa-Salazar, Ana Ortigoza, Amélia Augusta de Lima Friche, Vanessa DiCecco, Mónica Mazariegos, Usama Bilal

24 July 2024 •  Open access

## Client perspectives on creating supportive sexual health environments for people with persistent anxiety: a qualitative study

Stéphanie Black, Sarah Watt, Mark Gilbert, Heather Nicole Pedersen, Aidan Ablona, Hsiu-Ju Chang, Travis Salway

 Open access

20 July 2024 • 

### [Suicide in Hong Kong during the COVID-19 pandemic: an observational study](#)

Anying Bai, Jinjian Li, Yuhang Pan, Yu Jiang

16 July 2024 •  Open access

### [Economic evaluation of Maternal Depression Treatment in HIV \(M-DEPTH\) for perinatal depression among women living with HIV in Uganda: a cost-effectiveness analysis](#)

Ryan McBain, Adeyemi Okunogbe, Violet Gwokyalya, Rhoda K Wanyenze, Glenn Wagner

16 July 2024 •  Open access

### [‘Two sides of the same coin’? A longitudinal analysis evaluating whether financial austerity accelerated NHS privatisation in England 2013-2020](#)

Benjamin Goodair, Anders Malthé Bach-Mortensen, Aaron Reeves

14 July 2024 •  Open access

### [Assessing the health and economic burden of obesity-related complications in East-Asian populations: implementation of risk equations in the Core Obesity Model for Japan and model validation](#)

Ichiro Tatsuno, Laetitia Gerlier, Anamaria-Vera Olivieri, James Baker-Knight, Mark Lamotte

14 July 2024 •  Open access

### [Chasing cancer: does the social-to-medical spending ratio relate to cancer incidence and mortality in Canadian provinces? A retrospective cohort study](#)

Cameron MacLellan, Paul Kershaw, Ronald D Kneebone, Lindsay McLaren, Tony Reiman, Robin Urquhart, Daniel J Dutton

14 July 2024 •  Open access

### [Factors associated with decreased anal sphincter tone and the accuracy of forced anal examinations to detect individuals having receptive anal intercourse: an observational study](#)

Alan G Nyitray, B R Simon Rosser, Aniruddha Hazra, Jenna Nitkowski, Derek Smith, Bridgett Brzezinski, Timothy J Ridolfi, John A Schneider, Elizabeth Y Chiao, Sandrine Sanos, Ever Mkonyi, Lucy Mgopa, Michael W Ross

10 July 2024 •  Open access

### [Psychosocial health stigma related to COVID-19 disease among COVID-19 patients in Jordan: a comparative study](#)

Lina Jalal Daoud, Mamdouh El-hneiti, Mahmoud Ogla Al-Hussami

10 July 2024 •  Open access

### [Social media use and anxiety levels among school adolescents: a cross-sectional study in Kathmandu, Nepal](#)

Nishika Aryal, Anuja Rajbhandari

10 July 2024 •  Open access

### Community childhood obesity assessment in elementary school, anthropometric indices as screening tools: a community cross-sectional study in Indonesia

Iche Andriyani Liberty, Indri Seta Septadina, Muhammad Qurhanul Rizqie, Mariana Mariana, Pariyana Pariyana, Resy Amalia, Hamzah Hasyim

10 July 2024 •  Open access

### Development and validation of a Non-INvaSive Pregnancy Risk ScoRE (INSPIRE) for the screening of high-risk pregnant women for gestational diabetes mellitus in Pakistan

Sabahat Naz, Samreen Jamal, Ali Jaffar, Iqbal Azam, Subhash Chandir, Rahat Qureshi, Neelofur Babar, Aisha Syed Wali, Romaina Iqbal

8 July 2024 •  Open access

### Effectiveness of direct patient outreach with a narrative naloxone and overdose prevention video to patients prescribed long-term opioid therapy in the USA: the Naloxone Navigator randomised clinical trial

Jason M Glanz, Shane R Mueller, Komal J Narwaney, Nicole M Wagner, Stanley Xu, Courtney R Kraus, Kris Wain, Sheila Botts, Ingrid A Binswanger

4 July 2024 •  Open access

### Experiences of healthcare workers who faced physical workplace violence from patients or their relatives in Nepal: a qualitative study

Mukesh Adhikari, Dinesh Timalsena, Kalpana Chaudhary

4 July 2024 •  Open access

### Level of dietary diversity score and its predictors among children aged 6–23 months: a linear mixed model analysis of the 2019 Ethiopian Mini Demographic Health Survey

Getahun Fentaw Mulaw, Osman Ahmed Mohammed, Kusse Urmale Mare

4 July 2024 •  Open access

### Understanding HIV care providers' support for tobacco cessation among people living with HIV in Western Kenya: a formative qualitative study

Zachary Arochi Kwena, Elizabeth A Bukusi, Linet Onger, Starley B Shade, Maya Vijayaraghavan, Francesca A Odhiambo, Cirilus O Ogala, Craig R Cohen, Peter Magati, Yvonne A Olando, Greshon Rota, Purba Chatterjee, Christine A Osula, Jerry J Nutor, Stella S Bialous

2 July 2024 •  Open access

### Evaluating and mapping the evidence that screening for diabetic foot disease meets the criteria for

### [population-wide screening: a scoping review](#)

Jennifer A Pallin, Lauren Connell, Caroline McIntosh, Paul Kavanagh, Sean F Dinneen, Patricia M Kearney, Claire M Buckley

16 July 2024 •  Open access

### [Inequalities in children's tooth decay requiring dental extraction under general anaesthetic: a longitudinal study using linked electronic health records](#)

Nicola Firman, Carol Dezateux, Vanessa Muirhead

28 June 2024 •  Open access

### [Improving influenza vaccine uptake in clinical risk groups: patient, provider and commissioner perspectives on the acceptability and feasibility of expanding delivery pathways in England](#)

Ben Kasstan, Rajeka Lazarus, Ifra Ali, Sandra Mounier-Jack

23 June 2024 •  Open access

### [Epidemiology and morbidity of spina bifida in Hispanic Americans: a systematic review](#)

Sunny Abdelmageed, Megan Votoupal, Sandi K Lam, Roxanna M Garcia

17 June 2024 •  Open access

### [Real-world clinical validation of the Qatar pre-diabetes risk score: a cross-sectional study](#)

Narjiss Sallahi, Abduljaleel Abdullatif Zainel, Halima None Bensmail, Mohamed Ahmed Syed, Abdellilah Arredouani

13 June 2024 •  Open access

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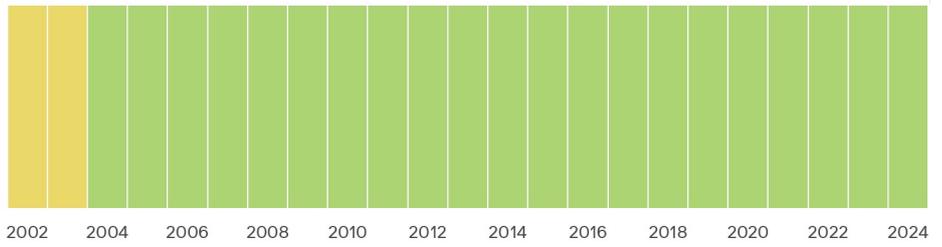
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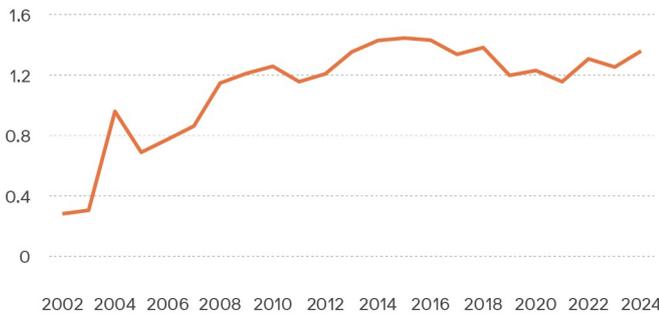
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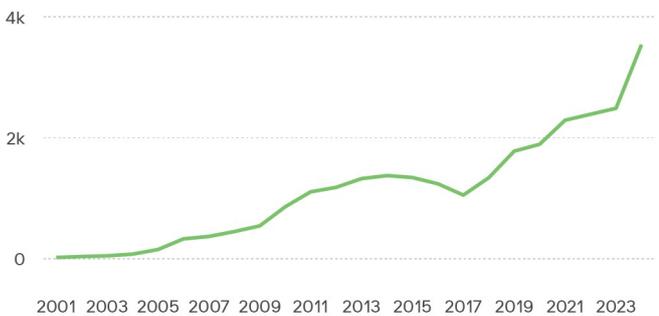
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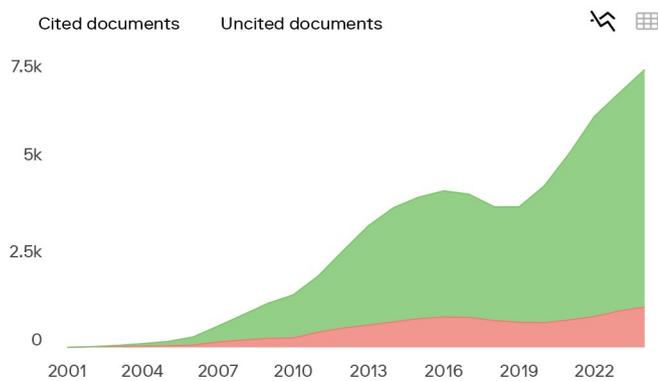
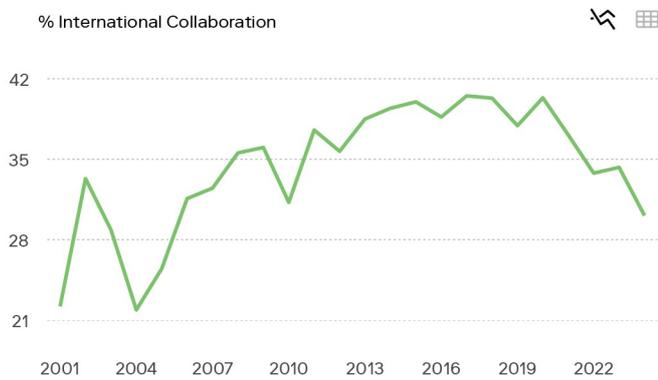
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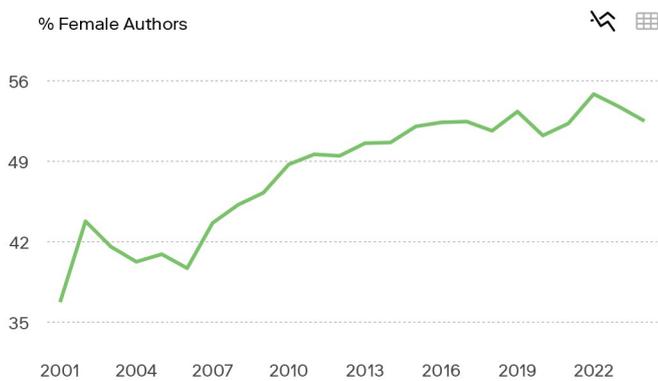
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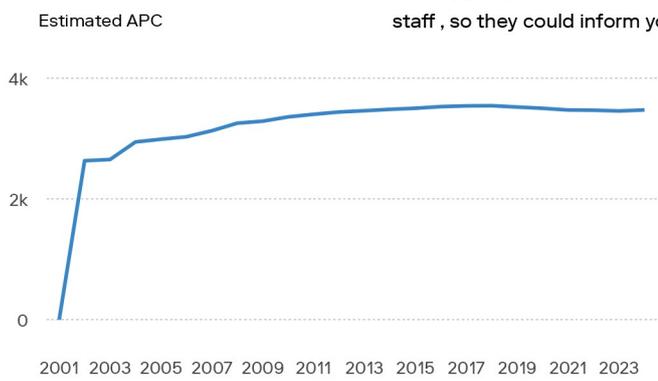


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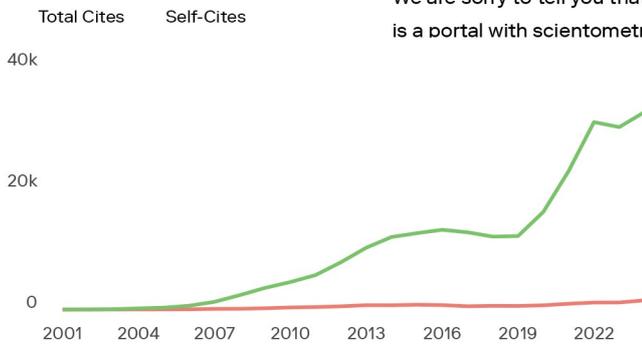
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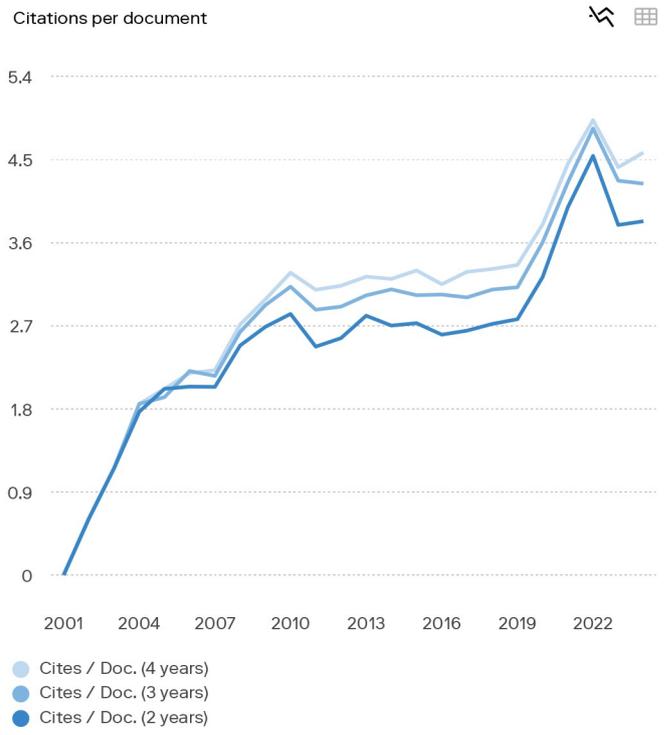


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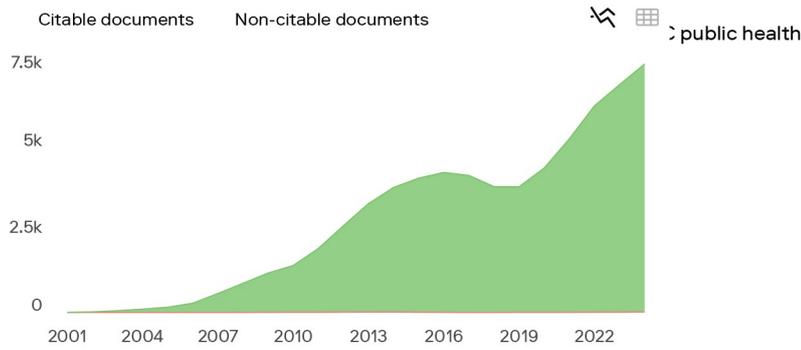
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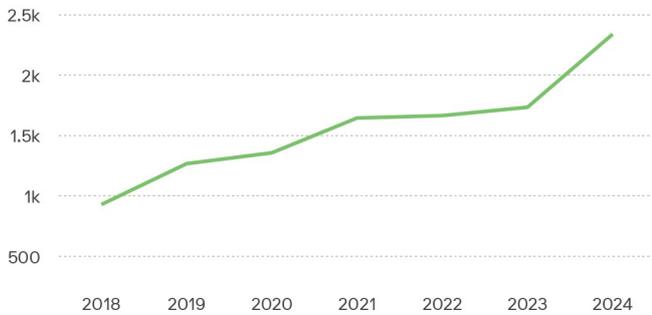
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M

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