Attempted Suicide Short Intervention Program Influences Coping Among Patients with a
History of Attempted Suicide

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Abstract

The development of individual coping strategies for suicidal crises is essential for suicide prevention. However, the influence of a brief intervention and the effect on coping strategies is largely unknown. This study aims to investigate the long-term association between coping behaviour and suicidal ideation in a clinical high-risk sample of the Attempted Suicide Short Intervention Program (ASSIP) evaluation study. In this secondary analysis of a 24-month follow-up randomised controlled study, 120 patients (55% female; mean age of 36) with a history of suicide attempts were randomly allocated to the ASSIP group or to a control group, both added to treatment as usual. The present study identifies an 11% reduction in dysfunctional coping in the ASSIP group and a 6% increase in problem-focussed coping compared to the control group after 24-months. Broader categories of dysfunctional coping showed a significant interaction between the ASSIP group and the control group regarding self-distraction, after 12-months, and self-blame, after 24-months. In the ASSIP group, active coping and substance use were associated with a reduction in Beck Scale for Suicide Ideation (BSS) scores. In the control group (CG), behavioural disengagement and positive reframing were positively and self-distraction was negatively related to suicidal ideation. These results indicate that ASSIP has an influence on coping behaviour. Thus, the development of new problem-focussed coping strategies is crucial, although a reduction in dysfunctional coping (e.g. self-blame) seems to be essential in overcoming suicidal crises long-term.

Key words: attempted suicide, coping behaviour, Attempted Suicide Short Intervention

Program, ASSIP brief therapy, suicidal ideation

Attempted Suicide Short Intervention Program Influences Coping Among Patients with a History of Attempted Suicide

Coping is a key element in solving personal and interpersonal problems and in handling stress. Coping has been defined by Lazarus (1993) as a process in which cognitive and behavioural efforts are made to manage psychological stress. The success of an individual's coping efforts depends on both the type of stress and the particular individual in his or her circumstances (Lazarus & Folkman, 1984).

Under stress or in depression adolescents tend to use more dysfunctional coping strategies such as behavioural disengagement (Horwitz, Hill, & King, 2011; Wadsworth & Compas, 2002). Further examples of dysfunctional coping strategies are denial and distraction, which are also related to higher levels of stress and are associated with depression and anxiety (Caims, Yap, Pilkington, & Jorm, 2014; Ryan, Cooper, Austin, & Livingston, 2013; Schaffer and Pritchard, 2003). On the other hand, adaptive coping strategies predict psychological functioning and wellbeing and are negatively related to psychopathology (Riley, Kirsch, Shapiro, & Conley, 2016). Ryan and colleagues (2012) found that strategies based on acceptance and seeking emotional support lower anxiety and depression.

Several groups of researchers have investigated the association between coping strategies and suicidality and have found that coping styles among patients with and without suicidal ideation differ (Horwitz, Czyz, Berona, & King, 2018; Spirito, Overholser, & Stark, 1989). For example, avoidant and emotion-focussed coping (e.g. seeking emotional support) are associated with greater suicidal ideation, self-harm, and suicidal behaviour (Guerreiro et al., 2013; Marusic & Goodwin; Williams & Hasking, 2010). Whereas problem-focussed coping seemed to have a negative correlation to deliberate self-harm (Guerreiro, Cruz, Frasquilho, Figueira, & Sampaio, 2013; Horwitz et al., 2011) others did not find evidence for a relationship between problem-focussed coping and suicidal ideation (Horwitz et al., 2011).

However, with regard to broader categories of dysfunctional coping strategy, self-blame was associated with deliberate self-harm, and behavioural disengagement with suicidal ideation (De Leo & Heller, 2004; Horwitz et al., 2018). Furthermore, O'Conner, Smyth, and Williams (2015) found that intrapersonal positive future thinking was only protective with regard to a suicide-specific outcome when participants were in crisis, in the hours following a suicide attempt.

The development of coping strategies in the case of suicidal risk is part of various clinical interventions (e.g. safety planning intervention by Stanley and Brown, 2012) and also applies to the Attempted Suicide Short Intervention Program (ASSIP; Michel & Gysin-Maillart, 2015). The brief therapy ASSIP demonstrated, in a 24-month follow-up randomised controlled study, an approximately 80% reduced risk of making at least one further suicide attempt (Gysin-Maillart, Schwab, Soravia, Megert, & Michel, 2016). One of ASSIP's key elements is to develop new behavioural safety strategies for future suicidal crises. Suicide can become a strategy, although dysfunctional, to escape from an unbearable state of mental pain (Michel & Gysin-Maillart, 2015; Michel & Valach, 1997; Rudd, Joiner, & Rajab, 2004; Shneidman, 1993). This dysfunctional strategy may be used, if no other coping skill is readily available. Assuming that after a suicide attempt, the "suicidal mode" (Beck, 1996; Michel & Gysin-Maillart, 2015; Rudd, 2000), once established, can be re-activated at any time in a future crisis, it is even more important to find personal coping strategies for individuals that allow them to be able to handle life-threatening issues differently. The brief therapy ASSIP thus focuses on patients' retaining of their ability to take action as well as on fostering functional and safe ways of managing future suicidal crises by improving specific coping strategies (Michel & Gysin-Maillart, 2015).

To our knowledge, no other studies have examined the long-term effect on coping behaviour by a brief therapy for patients after a suicide attempt. Although there are many

observational studies on the relationship between coping and suicidal ideation, there is limited research on that topic (Horwitz et al., 2018). To fill this gap, the present study aims to examine the association between coping strategies and suicide-related outcomes in a clinical high-risk sample over a 24-month time period. Our goal is to analyse the influence of ASSIP on the development of individualised coping strategies for future suicidal crises in comparison with a control group. Therefore, we first hypothesised that coping behaviour in patients undergoing ASSIP therapy would differ from a control group by their being able to increase problem-focussed coping and decrease dysfunctional coping and emotion-focussed coping over time. In addition, our second hypothesis was that the subgroups of dysfunctional, problem-focussed, and emotion-focussed coping strategies (such as for example self-blame, see Table 2) would differ between the ASSIP group and the control group over the course of 2 years. To assess the relationship between broader coping styles and subsequent suicide-related outcomes, we thirdly hypothesised that the longitudinal association between coping strategies and suicidal ideation will differ between the ASSIP group and the control group. In the larger ASSIP evaluation study (Gysin-Maillart et al., 2016), the secondary outcome of coping behaviour was not analysed, and therefore is being post-analysed in the present study.

Methods

Procedure

We analysed data from a 24-month follow-up randomised controlled study of the effectiveness of the ASSIP (Gysin-Maillart et al., 2016), which took place at the University Hospital of Psychiatry and Psychotherapy of Berne (UPD). The trial protocol of this study had been submitted to and approved by the local ethics committee in accordance with the Declaration of Helsinki (Rickham, 1964) (register number 144/08, Cantonal ethic committee Berne; trial registration: ClinicalTrial.gov NCT02505373). An experimental design with randomisation either to an ASSIP group or a control group was used (Gysin-Maillart et al.,

2016). For ethical and practical reasons, the control group was offered a clinical interview and assessment of suicide risk. The majority of patients with a history of attempted suicide were referred from the emergency department of Bern University General Hospital and were seen by the psychiatrist on call. The rest were referred from the University Hospital of Psychiatry in Berne, Switzerland. The researchers obtained written informed consent and a declaration of agreement to video-record the narrative interview from all participants. For data protection all data of participants was encrypted. Written informed consent and video-recorded interviews received a numerical identification and were stored securely in a locked room. Thereafter, the three session therapy ASSIP was carried out at the outpatient department of the UPD. After the first session, participants completed the first set of questionnaires, to assess personal and socio-demographic data, coping strategies, suicidal ideation, and depression. They received the same questionnaires for the follow-up evaluation after 6, 12, 18, and 24 months.

Participants

Over a four-year time period (January 2009 to December 2012), 291 individuals were referred to the study, of which 171 were excluded. Reasons for non-participation were that no contact could be made or that they declined to participate (e.g. they denied having had suicidal intention, etc.). Patients were excluded ($N = 98$) if they met any of the following conditions: insufficient knowledge of the German language, current psychotic disorder, serious cognitive impairment (e.g. loss in intellectual capacity, such as long term memory), or residency outside the hospital catchment area. Participants included male and female in- and outpatients between the ages of 14 and 77. Diagnostic data and circumstances of the suicide attempts were collected from the emergency department of the General Hospital and the University Hospital of Psychiatry.

Therapists

Four trained therapists provided the brief therapy ASSIP: two experienced therapists, a psychiatrist and a clinical psychologist, trained two psychologists with an average of two years of clinical practice after graduation in the ASSIP protocol. This training included regular case supervision using the video-recorded narrative interviews. The clear structure of the three therapy sessions (see below) provided a strict framework and ensured adherence to the treatment protocol.

ASSIP Therapy

ASSIP is a three-session brief therapy, which is preferably administered within three weeks following a suicide attempt (Michel & Gysin, 2015).

First session: A narrative interview is video-recorded, during which patients are asked to tell the story of the suicide attempt in their own words. The goal of the narrative interviewing technique (Michel & Valach, 2011) is to understand how patients explain their suicidal crisis in the context of their personal history. To identify relevant biographical issues, specific vulnerabilities, and trigger events, an action theoretical model of suicidal behaviour is used as a frame (Michel & Valach, 1997).

Second session: The therapist and the patient view the taped narrative interview of the first session in a video-playback, sitting side by side. The purpose is to identify the main biographical life goals related to the suicide attempt and the transition from mental pain to suicide action. Automatic thoughts, emotions, physiological changes, and contingent behaviour are identified. The video-playback helps the patient to learn more about the process of the suicidal crisis and thus to improve suicide-related coping strategies for future crises. The therapist helps the patient to view his own suicide narrative from a new perspective as an outsider and to integrate new functional coping strategies, so that the patient will be able to influence future suicidal processes and stop the suicidal mode.

Homework: Psychoeducational homework is given to the patient after the first or second session. Patients are asked to make notes and specify whether they recognise themselves in the text.

Third session: Patients' narratives are reconstructed in a hierarchical order (suicide related actions, relevant projects, and life career issues). A written summary of the individual-biographical vulnerability and of typical triggering event(s) is developed and revised together with the patient (case conceptualisation). Relevant life-career issues are formulated. A personal list of long-term therapy goals, warning signs, and safety strategies (which were worked out in video-playback) is also compiled and copied to a credit card size "Leporello", which can be easily carried. Patients are also given a personal crisis card, which offers easy access to relevant mental-health professionals.

Outreach element: Regular semi-standardised letters are personally signed by the ASSIP therapist and then sent to the patient over a time-span of two years, every three months in the first year, and every six months in the second year. Letters remind patients about their personal strategies and the availability of the ASSIP team in times of suicidal crisis.

Measures

Patients completed a set of questionnaires after the first session and were asked to repeat completing a new set every six months for two years.

Personal and socio-demographic data (DEMO; Gysin et al., 2016). Sociodemographic data about civil status, previous suicide attempts, past treatment, in- and outpatient contacts, diagnosis, medications, substance abuse, self-harm, suicidal ideation, repeated suicide attempts, and social contacts were collected using a 33-item self-report measure. Data about the hospital diagnosis and circumstances of the suicide attempt were collected from the emergency report of the emergency department at the General Hospital and the University Hospital of Psychiatry.

The *Brief COPE Inventory* (Carver, 1997) is a 28-item self-report questionnaire to measure coping strategies that consists of 14 scales (internal consistency of all subscales, $\alpha > 0.5$), each of which is represented by two items. Participants indicate their answers on a four-point scale, rating the resemblance of each item to the coping efforts they pursued. The response scale ranges from "not at all" (1) to "very much" (4). Carver, Scheier, and Weintraub (1989) described and Coolidge, Seal, Hook, and Stewart (2000) operationalised the COPE in the three subscales dysfunctional, problem-focussed, and emotion focussed coping. Cooper, Katona, and Livingston (2008) reported reliability and validity and found good internal consistencies for emotion-focussed, problem-focussed, and dysfunctional subscales ($\alpha = 0.72, 0.84, 0.75$), see Table 2.

The Beck Depression Inventory (BDI) is a 21-question self-report inventory used to measure the severity of depression (Beck & Steer, 1987). Items are rated from 0 to 3 to measure increasing levels of severity. The BDI is scored by summing the 21 ratings with total scores ranging from 0 to 63. In the present study, the German version was used (Hautzinger, Bailer, Worall, & Keller, 1994).

The *Beck Scale for Suicide Ideation (BSS)* is a 21-item self-report instrument for measuring the current intensity of a patient's specific attitudes, behaviours, and plans related to suicidal behaviour (Beck & Steer, 1991). Suicidal ideation is screened using the first five BSS items. If, in both items 4 (no indication of active suicidal intention) and 5 (indication of avoidance of death if presented with a life-threatening situation), the patient selects the zero statements, then the patient can skip the next 14 items (which address specific information about the respondent's plans and attitudes). Each item is rated from 0 to 2. The severity of suicidal ideation can be calculated by summing up the first 19 items. Item 20 (previously attempted suicide) and 21 (severity of the suicide attempt) are qualitative items and are not

included in the total score. The total score ranges from 0 to 38 points. In the present study the German version of the BSS was used (Fidy, 2008).

Statistical analysis

We analysed data by the intention-to-treat (ITT) approach; missing data were addressed by multiple imputations by chained equations. The 20 imputed datasets were averaged into a single-average dataset for subsequent analyses. Three Wilcoxon rank-sum tests were used for differences in the three coping main domains between the two groups at the 24-month follow-up. For the main domain with the most significant group difference, dysfunctional coping, we used MANOVA/ANOVA to investigate which of the dysfunctional coping subscales show differences between groups and at which timepoints, i.e. the four follow-up timepoints at 6, 12, 18, and 24-months. In other words, we were interested in a significant interaction between group and time. The reason to use MANOVA is that the subscales would require many tests which could inflate false positive rates. Therefore, we first applied a MANOVA for all subscales of dysfunctional coping with six subscales and problem-focused coping with three subscales as nine dependent variables altogether. In the model, we used group and time as between and within factor, respectively. Second, in a post-hoc analysis, we applied univariate ANOVAs for each of the subscales in dysfunctional and problem-focused coping to investigate which of the nine subscales caused the significant interaction in the MANOVA.

To investigate the relationship between coping and suicidal ideation, we used stepwise linear regression. The reason to use stepwise regression is to subset the many coping subscale variables into a (reduced) set of regressor that are relevant and potentially explain BSS scores. As regressors, we used 12 of 14 coping subscales; two subscales were correlated with other regressors, see below. We also included BDI scores and previous suicide attempts before follow-up as additional regressors in our model. We checked the regressor variables for multicollinearity in both the groups with the variance inflation factor (VIF). We removed two

subscales from the analysis as these had a VIF > 4: institutional support (correlated with emotional support in the ASSIP and the control group) and self-blame (correlated with BDI in the control group). Therefore, the number of regressors in the stepwise regression was 14. We fitted the same initial model separately in the two groups. This allows the stepwise approach to subset two different models for the two groups.

In all the analyses a *p*-value of less than 0.05 was considered statistically significant, and all tests were two-sided.

Results

Descriptive characteristics

Of the 291 patients assessed for eligibility, 120 were randomly allocated to an ASSIP (*n* = 60) and a control group (CG, *n* = 60). Of these, 54 (45%) were male (mean age 40 years, SD = 14) and 66 (55%) were female (mean age 36 years, SD=14). No differences between groups were found concerning sociodemographic or clinical variables (see Table 1).

Descriptive characteristics of the two groups are shown in Table 1. No baseline differences of sociodemographic or clinical variables were found between the two groups, with the exception of substance abuse.

Group differences in coping behaviour

We analysed dysfunctional, problem-focussed, and emotion-focussed coping after the 24-month follow-up (Figure 1). The ASSIP group showed an 11% reduction in dysfunctional coping compared to the control group (ASSIP, median=1.83; CG, median=2.05, *W* = 1316, *p* = 0.011), and a 6% increase in problem-focussed coping (ASSIP, median=2.83; CG, median=2.67, *W* = 2217, *p* = 0.029). There was no difference in emotion-focussed coping (*W* = 1769, *p* = 0.87). With dysfunctional coping and problem-focused coping showing relevance, we used MANOVA to investigate whether any of the nine subscales of dysfunctional coping and problem-focussed coping showed group differences at any of the four follow-up timepoint,

i.e. we investigated a significant interaction between follow-up time and treatment group. The MANOVA showed a tendency to a significant interaction time $\times$ group ($F_{3, 354} = 1.50, p = 0.0496$). We performed nine post-hoc univariate 4×2 ANOVAs (time $\times$ group) that aim checking which individual variable of the nine subscales showed interactions. Only self-distraction and self-blame as dependent variables confirmed the significant interactions, see Figure 2 (self-distraction: $F_{3, 354} = 4.84, p = 0.003$; self-blame: $F_{3, 354} = 3.10, p = 0.027$). The other subscales were not significant (all $p > 0.05$).

Association of coping behaviour with suicide-related outcome

We performed a stepwise linear regression to relate a set of 12 coping subscales, previous suicide attempts, and depression (BDI) with suicidal ideation (BSS) as dependant variable. In the ASSIP group both BDI scores and previous suicide attempts significantly increased BSS scores, see Table 3. The subscales active coping and substance use were significantly associated with a reduction in BSS scores. The overall model was significant ($F_{4, 55} = 26.48, p < 0.0001$) and explained 63% of the variance of the BSS scores (adjusted R^2). In the control group higher BDI scores, behavioural disengagement, previous suicide attempts, and positive reframe, were related to increased BSS scores (see Table 3). The subscale self-distraction was significantly related to a reduction in BSS score. Venting was also part of the final model, but did not reach significance ($p = 0.13$). The overall model was significant, ($F_{6, 53} = 15.37, p < 0.0001$) and explained 59% of the variance in the BSS scores (adjusted R^2).

Discussion

The results of this study on patients with a history of attempted suicide indicate that the brief therapy ASSIP influences coping strategies, which are important in preventing repeated suicide attempts.

The hypothesis that coping behaviour of patients undergoing ASSIP therapy differs from that of a control group was confirmed, in the long-term. The ASSIP group showed a 11%

reduction in dysfunctional coping compared to the control group, and a 6% increase in problem-focussed coping after a 24-month follow-up. In contrast, emotion-focussed coping did not differ between the groups. Arguably, ASSIP reduces dysfunctional coping, enhances problem-focussed coping, and does not seem to have an influence on the emotion-focussed strategies.

Regarding the subgroups of dysfunctional, problem-focussed, and emotion-focussed coping, only broader coping categories of dysfunctional coping showed a significant interaction between ASSIP and control group over time. Significant effects were found for the subscales self-distraction, after 12-months and self-blame after 24-months. For problem-focussed coping no significant interaction over time could be shown. In other words, even though there seems to be a small improvement in problem-focused coping, we could not confirm the effect on the subscale level.

Self-distraction is defined as “turning to work or other activities to take my mind off things/doing something to think about it less” (Carver, 1997; Carver et al., 1989). While self-distraction is basically defined as dysfunctional (Cooper et al., 2008) in coping with stressful situations, it might have a different effect with suicidal patients. For them, being able to distract themselves may allow the suicidal mode to be interrupted. This assumption is nurtured by the findings that ASSIP is effective in preventing suicide attempts, and the ASSIP group has significantly higher scores on self-distraction after 12-months. The effect loses its relevance in the second year, therefore to self-distract may be effective in order to cope with situations with high mental pain, but not in times of lower mental pain.

Self-blame, in contrast, although initially higher in the ASSIP group, decreased constantly until, after 24-months its' scores fell below the scores of the control group. Therefore, ASSIP seems to be effective in reducing self-blame. Reduced self-blame has been found to be an important protective factor (De Leo & Heller, 2004; Horwitz et al., 2018). A

recently published study by Horwitz and colleagues (2018) was able to show that self-blame was implicated in future suicidal behaviour.

Further in this study the relationship between coping behaviour and subsequent suicide-related outcomes was examined by assuming group differences in the long-term association between broader coping styles and suicide-related outcomes. Firstly, in the ASSIP group, higher rates in active coping (e.g. efforts on doing something about the situation or taking action to make it better), which is a subscale of problem-focussed coping, were significantly associated with lower rates of suicidal ideation. The more patients were able to use active coping strategies, the less suicidal ideation they had. Horwitz and colleagues (2018) reported similar results by finding a protective effect, only for males, when using active coping strategies. Although our study did not show any gender differences, our results are in line with this. The brief therapy ASSIP concentrates on increasing active coping strategies, so patients feel empowered to change by taking action to improve their situations.

Secondly, higher rates in substance use were significantly associated with lower scores of suicidal ideation in the ASSIP group. This result stands in contrast with the work of King and colleagues (2001), who found that substance use as a coping behaviour implicates an increased risk for future suicidal ideation and attempts. The use of alcohol or drugs has been described as a way of disengaging (Carver et al., 1989), which can be understood as a dysfunctional coping strategy of disengaging from one's goals (McCrae & Costa, 1986). In this context, substance use ("using alcohol or other drugs to make myself feel better/to help me get through it") could be understood as a strategy for moving away from threatened life goals and thereby reducing suicidality. Further research is needed to review this effect, especially with regard to the fact that slight group differences in substance use were found at the beginning of the study

In the results of the control group it was shown that self-distraction was negatively, and behavioural disengagement positively, associated with suicidal ideation. The more patients were able to self-distract, the lower the rates reported for suicidal ideation. Conversely, suicidal ideation increased the more patients used behavioural disengagement, a finding also reported by Votta & Manion (2004). Horwitz et al. (2018) also found that the use of disengagement was predictive of future suicidal ideation. In addition, positive reframing was positively associated with suicidal ideation; this effect was small but in line with Horwitz et al. (2018). Cooper et al. (2008) argued that emotion-focussed coping, such as positive reframing, might depend on other extraneous factors (e.g. quality of close relationships, therapeutic input, etc.).

Previous studies concerning emotion-focussed strategies are controversial. Seeking emotional support has been associated with less anxiety and depression, on the other hand it has been found to predict suicidal behaviour (Guerreiro et al., 2013; Horwitz et al., 2018; Ryan et al., 2012). Therefore, future research should more precisely assess the kind of emotional support that is being asked for. Possibly seeking one kind of emotional support can be an adaptive coping strategy, whereas another kind of emotional support might be dysfunctional. Moreover the Brief COPE Inventory (Carver, 1997, Coolidge et al., 2000) used in this study includes items concerning emotion-focussed strategies, which are not addressed by ASSIP (e.g. humour or religion); this could be a possible explanation, why no effects were found. In future studies the role of emotion-focussed coping strategies in preventing suicide should be further investigated. In addition, it should be further elucidated, how emotion-focussed coping strategies can be addressed.

In the following, the reasons why ASSIP has an effect on coping strategies will be discussed. During video-playback, patients are confronted with their behaviour and encouraged to become aware of dysfunctional coping behaviour. This enables them to establish biographical connections between threatened life-goals, which are related to their suicidality,

and dysfunctional coping strategies early in the process. By formulating corresponding long-term therapy goals and simultaneously developing alternative coping strategies, patients may be able to face these issues over the long-term, which can lead to a lasting change in their coping behaviour. Problem-focussed coping strategies aim at working on the source of stress by defining a problem, generating alternative solutions, and/or considering the relative costs and benefits (Carver, 1997; Carver et al., 1989; Coolidge et al., 2000; Horwitz et al., 2011). Alternative solutions (e.g. active coping, use of instrument support or planning) are generated during the course of ASSIP by finding personal coping strategies for future suicidal crises. By being sent regular letters, patients are repeatedly reminded of their coping strategies, available at any time on the “le porello”, which may explain the long-term effect.

A limitation of the ASSIP evaluation study relevant for this report was increasing rates of missing data and dropouts during the 24-month follow-up, which were addressed by ITT analysis and the use of multiple imputations (Gysin-Maillart et al., 2016). Furthermore, repeated suicidal behaviour was measured by means of self-assessment and could therefore be over- or underestimated. We tried to reduce this effect for both groups by making final contact with relevant health care professionals and going over emergency reports. Moreover, the receipt of a clinical interview and suicide risk assessment in the control group could have potentially had an effect on participants' coping mechanisms. This procedure could not be avoided for ethical reasons. Since clinical interviews and risk assessment belong to the standard treatment of patients after a suicide attempt, a rather unspecific effect (e.g. time spent together) can be assumed in this case. In hindsight, the difficulty was not to have any additional contact with the control group. Some participants contacted the research team when they were in suicidal crisis, so there was repeated contact, partly for ethical reasons, which may have reduced the group differences of the outcome variables.

In summary, our findings suggest that a suicide-specific brief therapy such as ASSIP can have an influence on the development of personal coping strategies for patients after a suicide attempt. Further research is needed to investigate the role of emotion-focussed strategies in coping and how it can be addressed through interventions.

The results of this study have clinical implications. Intervention programs can have an influence on the coping strategies used by patients. Therefore, this focus on interventions should be further emphasized.

Conclusion

The brief therapy ASSIP is a clinical approach to elucidate the background of the suicidal crisis, and - most importantly for this study - it established additional and new behavioural prevention strategies. Thus, teaching problem-focussed coping strategies is important, although it may not be sufficient in reducing suicidal ideation or suicidal behaviour. Instead, the reduction of dysfunctional coping (e.g. self-blame) strategies may be an important supplement to learn new adaptive behaviour in reducing suicidal behaviour and ideation. Knowing that functional coping response are available for future suicidal crises may lead the patient to a reappraisal of the triggering situation. Suicide-specific interventions should therefore pay special attention to the development of personal problem-focussed coping strategies as well as the reduction of dysfunctional coping strategies.

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Table 1

Characteristics of Study Participants

	ASSIP <i>N</i> = 60	Control <i>N</i> = 60	Total <i>N</i> = 120	test statistic	<i>p</i> -value
Female/Male	36/24	30/30	66/54	$\chi^2 = 1.21$	.27 ¹
Age, years (SD)	36.5 (14.3)	39.1 (14.6)	37.8 (14.4)	W = 1616	.33 ²
Diagnosis (ICD-10) - <i>n</i> (%)					
F1	10 (17)	20 (33)	30 (25)	$\chi^2 = 4.44$	.035 ¹
F3	40 (67)	36 (60)	76 (63)	$\chi^2 = 0.57$	.45 ¹
F4	25 (42)	28 (47)	53 (44)	$\chi^2 = 0.30$	.58 ¹
F6	8 (13)	12 (20)	20 (17)	$\chi^2 = 0.96$	.33 ¹
Other	6 (10)	1 (2)	7 (6)	$\chi^2 = 3.79$	.051 ¹
Married - <i>n</i> (%)	19 (32)	15 (25)	34 (28)	$\chi^2 = 0.66$	.42 ¹
Children - <i>n</i> (%)	25 (42)	19 (32)	44 (37)	$\chi^2 = 1.29$	.26 ¹
Employed - <i>n</i> (%)	34 (57)	36 (60)	70 (58)	$\chi^2 = 0.14$	.71 ¹
BDI, mean (SD)	18.1 (11.4)	18.3 (12.2)	18.2 (11.8)	W = 1788	0.95 ²
BSS, mean (SD)	7.4 (8.4)	9.1 (9.1)	8.2 (8.8)	W = 1614	0.32 ²
COPE, mean (SD)	2.13 (0.32)	2.18 (0.32)	2.15 (0.32)	W = 1676	0.51 ²

Note. F1: substance abuse disorder; F3: Neurotic and acute stress reaction; F4: affective disorder; F6: Personality disorder; BDI: Beck Depression Inventory; BSS: Beck Scale for Suicide Ideation; COPE: Brief COPE Inventory; ¹Chi-square test; ²Mann-Whitney *U* test.

Table 2

The three subscales dysfunctional, problem-focussed, and emotion-focussed coping

Dysfunctional coping strategies	Problem-focussed coping strategies	Emotion-focussed coping strategies
Self-distraction, items 1&19 (<i>turning to work or other activities to take my mind off things/doing something to think about it less</i>)	Active coping, items 2&7 (<i>concentrating my efforts on doing something about the situation I'm in /taking action to try to make it better</i>)	Use of emotional support, items 5&15 (<i>getting emotional support/comfort and understanding</i>)
Denial, items 3&8 (<i>saying to myself "this isn't real" /refusing to believe that it has happened</i>)	Use of instrumental support, items 10&23 (<i>getting help and advice from other people/trying to get advice or help from others about what to do</i>)	Positive reframing, items 12&17 (<i>trying to see it in a different light, make it seem more positive/look for something good in it</i>)
Substance use, items 4&11 (<i>using alcohol or other drugs to make myself feel better/to help me get through it</i>)	Planning, items 14&25 (<i>trying to come up with a strategy about what to do/thinking hard about what steps to take</i>)	Humour, items 18&28 (<i>making jokes about it/making fun of the situation</i>)
Behavioural disengagement, items 6&16 (<i>giving up trying to deal with it/the attempt to cope</i>)		Acceptance, items 20&24 (<i>accepting the reality that it has happened/learning to live with it</i>)
Venting, items 9&21 (<i>saying things to let unpleasant feelings / escape expressing negative feelings</i>)		Religion, items 22&27 (<i>finding comfort in religious or spiritual beliefs/praying or mediating</i>)
Self-blame, items 13&26 (<i>criticizing myself/blaming myself for things that happened</i>)		

Note. The Brief COPE Inventory (Carver, 1997) was operationalised into the three subscales dysfunctional, problem-focussed, and emotion-focussed coping (Coolidge et al., 2000).

Table 3

Association of coping behaviour with suicidal ideation at 24-months for ASSIP and CG group.

	estimate	95%-CI	t-value	p-value
ASSIP				
BDI sum	0.39	from 0.25 to 0.54	5.61	<0.0001
Active coping	-2.91	from -4.65 to -1.18	-3.36	0.001
Previous suicide attempts	0.85	from 0.17 to 1.52	2.52	0.015
Substance use	-2.14	from -4.15 to -0.14	-2.14	0.036
CG				
BDI sum	0.46	from 0.34 to 0.59	7.52	<0.0001
Behav. disengagement	2.74	From 0.68 to 4.80	2.67	0.01
Previous suicide attempts	0.50	From 0.09 to 0.92	2.42	0.019
Self-distraction	-1.60	From -3.02 to -0.19	-2.27	0.027
Positive reframe	1.74	From 0.07 to 3.42	2.09	0.042
Venting	-1.62	From -3.71 to 0.47	-1.56	0.13

Note. CI = confidence interval; BDI sum = Beck Depression Inventory sum score, at 24-months; Behav.

Disengagement = Behavioural disengagement.

Figure 1. Scores for problem-focussed, emotion-focussed, and dysfunctional coping after 24-months follow-up, for both groups (ASSIP and CG).

Figure 2. Scores for self-distraction and self-blame for ASSIP and CG group from baseline to 24-months at six month intervals. Error bars are the 95% confidence intervals.