

Reducing Binge Alcohol Consumption in Young Men

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Executive summary

1. The aims of this randomised controlled trial were to evaluate the effectiveness of a brief psychological intervention relating to alcohol consumption and alcohol related injury and to assess the feasibility of carrying out such an intervention in an oral surgery outpatients' clinic.
2. One hundred and fifty one males (aged 16–35) with alcohol related facial injuries were recruited to the study whilst attending the Oral Surgery Department for treatment. Participants were randomly allocated to either treatment or control conditions, and followed up 3 and 12 months later.
3. The intervention was nurse-led, and based on motivational interviewing principles. The intervention was completed in 15 minutes and was given as a natural adjunct to the medical intervention (e.g. removing sutures). It aimed to encourage patients to review alcohol consumption levels and risk. The control condition was treatment as usual. This rarely involved a focus upon alcohol misuse. At baseline, 3-month and 1-year follow-up, patients were assessed for their alcohol consumption, alcohol problems, dependence and social satisfaction.
4. There was a significant decrease in total alcohol consumption over the one-year period across both groups ($p < 0.006$), and also a significant effect of the brief intervention relative to the control condition ($p < 0.029$). Alcohol consumption during the 3 months before admission to the study was 348 units in the control group and 383 in the intervention group, and at 1-year follow up had stayed constant in the control group (352) and dropped to 239 units in the intervention group.
5. At 12-month follow up, there was a significant decrease in the number of problem drinkers in the brief intervention group relative to the control group ($p < 0.01$). The percentage of problem drinkers in the intervention group dropped from 94% at the start to 58% at 12-month follow up, compared to a change from 94% to 81% in the control group.
6. It is feasible to conduct a brief alcohol intervention in an Oral Surgery outpatients' clinic. Training nurses to perform interventions is easy and can be achieved in a relatively short space of time.
7. In this population, (males aged between 16 and 35 with a facial injury sustained after consumption of eight or more units of alcohol) assault accounted for 80% of all injuries. Police time, as well as National Health Service time was involved in one third of incidents.

Introduction

Violence can be tackled either by directly addressing the violent behaviour, or by attempting to reduce the predisposing factors. This project focuses on the latter strategy, with a particular emphasis on alcohol-induced vulnerability. While the physiological mechanisms behind this are complex and not yet fully understood, previous research has demonstrated that vulnerability to injury, particularly injury sustained in violence or falls (Cherpitel, 1996) can be affected by alcohol consumption on the part of the injured (Shepherd & Brickley, 1996). There is evidence of a causal link between binge drinking and injury: consumption of eight units or more in the 6-hour period prior to injury has been shown to differentiate between the injured and non-injured (Shepherd, Robinson & Levers, 1990). In a Welsh survey (Moore, Smith & Catford, 1994), over one quarter of men and just under one tenth of women reported binge drinking at least once weekly, suggesting that this is a common phenomenon. Therefore, reducing binge alcohol consumption seems likely to lead to injury prevention, particularly as there is also evidence of a dose-related effect (Shepherd *et al.*, 1990).

Bien, Miller & Tonigan's (1993) review of brief interventions for problem drinkers suggests that brief interventions have been successful in reducing alcohol consumption and can be as effective as longer term treatments. They require very little in terms of time and therefore fit well into existing

hospital procedures. Furthermore, medical or nursing personnel can be trained in these methods quickly and cheaply.

Brief interventions

The duration of a brief intervention is usually between five and twenty minutes, although the term has been used rather flexibly in the literature. It can be based on a number of different therapeutic approaches, but recently, motivational interviewing techniques have been popular. This is a technique used to ‘examine and resolve ambivalence about behaviour change’ (Rollnick, 1996). Motivational interviewing is a particularly useful technique in that it is more effective than other approaches with patients who are not ready to change (Heather *et al.* 1996).

Meta-analyses/review articles

To date, three meta-analyses of brief interventions for alcohol problems have been conducted (Effective Health Care Review 1993, Mattick and Jarvis 1994, Wilk *et al.* 1997) and two review articles (Bien 1993, Heather 1995).

The Effective Health Care Review Team (1993) asked the question, ‘Are brief interventions effective in reducing harm associated with alcohol?’ and was optimistic in its conclusion that, ‘Brief interventions ...are effective in reducing alcohol consumption by over 20% in the large group of people with raised alcohol consumption’ and that they were ‘as effective as more expensive specialist treatments’. Bien *et al.*’s review (1993) also suggests that brief interventions are ‘often as effective as more extensive treatment’. Likewise, Wilk *et al.* (1997) (the most recent meta-analysis to date) concluded that a brief intervention makes an individual twice as likely to have moderated their drinking 6-12 months after intervention.

However, all these reviews may be over optimistic and less evaluative in their conclusions than is really warranted. Under the umbrella of the ‘brief interventions’ literature comes a multitude of interventions (which can differ in duration, approach and content) and, client groups (treatment seekers or non treatment seekers, dependent vs. non-dependent drinkers, those with other health problems or alcohol related injuries, those responding to advertisements etc.). These are all lumped together under the broad heading of brief interventions for alcohol problems. There is a need to take a more analytical approach or there is a risk that brief interventions will be misrepresented as the new panacea for the entire range of alcohol problems across a whole range of settings. This has potentially dangerous implications for health-care purchasers and policy makers, particularly as a publishing bias generally means that only research with significant results is published (Drummond, 1997).

Results from clinical trials may not reflect the results that would be achieved in day-to-day practise especially in busy GP surgeries (Heather *et al.*, 1996). Heather suggests that GPs are unwilling to conduct brief interventions on a large scale for reasons of role adequacy, role legitimacy and role support. There is also concern that many health care practitioners may be unable or unwilling to take on this extra work. It has been suggested that one of the major brief intervention trials conducted in GP surgeries (Wallace *et al.* 1988) was biased in that the GP sample was not representative because all participating GPs were members of a Medical Research Council research group.

Medical settings – A&E departments and Trauma Centres

Recently there has been a call to implement brief interventions for alcohol related problems in hospital A&E departments and Trauma Centres (Cherpitel 1994, Dyehouse & Somers, 1995, Lockhart, 1997). This is linked to the finding that between 40 and 50% of injured patients requiring hospitalisation have an alcohol related injury (Dyehouse & Somers, 1995). In the UK, it has been found that over 10% of A&E attendees had consumed alcohol prior to attendance (MacLeod & Walsh 1983), rising to 40% in the evenings (Holt *et al.*, 1980). In addition, it has been proposed that injury is a motivational factor often leading to a reduction in alcohol consumption. Booth & Grosswiler (1978) found that in drunk drivers it was the most predictive factor in modification of drinking behaviour, even more than a fine or custodial sentence. It is thought that injury provides a ‘teachable moment’ (Longabaugh *et al.*, 1995) – in which the aversive experience naturally produces a period where the individual is contemplating behaviour change. This study found two factors to be particularly salient in the readiness to change process: the individual’s perception of alcohol’s role in injury and the perceived aversiveness of the injury. These findings have implications for the content and structure of alcohol interventions.

Research on interventions in people with alcohol related injuries have yielded mixed results. Anti-Poikka *et al.* (1988) conducted a study of injured males in Finland. Participants in the intervention group received a total of five sessions (two from a nurse and three from a physician) and were followed up 6 months later. It was found that 45% of the intervention group but only 20% of the control group were 'improved'. Gentilello *et al.* (in press) conducted research in a U.S. trauma centre, following patients up 6 months and one year after injury. They found that the intervention was of most benefit to those with intermediate scores on the short version of the Michigan Alcoholism Test. At 6 months post-intervention, alcohol consumption had decreased in the intervention and control groups, but at 1-year follow up, the difference was only maintained in the intervention group. There was also a significant reduction (47%) in the injury experience of the intervention group relative to controls.

Bernstein *et al.* (1997) conducted an A&E department study that aimed to increase referrals to other services (particularly substance misuse facilities) using brief intervention strategies. Among those available to follow-up 2 months later, a mean reduction in alcohol use of 56% was found. Greber *et al.* (1997) studied trauma patients referred to the substance abuse consultation service (SACS). Patients were followed up 2 weeks after their initial consultation and it was found that 73% had not followed any of the recommendations made by the SACS. They suggested that resistance is not only common to patients with alcohol problems, but those with other problems too, such as diabetes. This lack of 'compliance' may have had something to do with the way in which patients were approached – the fact that the SACS made 'recommendations' rather than working through the alternatives with the patient.

The Oral Surgery Department and alcohol related injury

The research to be described was conducted in the Oral Surgery Department, which is part of the University Dental Hospital, University of Wales College of Medicine, Cardiff. The Oral Surgery Department specialises in the treatment of dental problems that require minor surgery and injuries of the face, mouth and jaws. The department was thought to be an appropriate environment in which to conduct this research for several reasons:

- Facial injury in the United Kingdom is treated by Oral Surgery Departments
- Most facial injuries are linked to alcohol related assault.
- An alcohol related injury is thought to encourage individuals to review their drinking behaviour, and facial injury may have more of a psychological impact than other injuries, due to the importance of facial appearance.

Methodology

Participants

Individuals were included in the study if they fulfilled the following criteria:

- Male
- Aged 16 to 35 years old
- Attendance at a local with a facial injury
- Consumption of eight or more units of alcohol prior to injury
- Dental hospital appointment for follow up treatment necessary
- A permanent home address

Patients were excluded if they appeared to have difficulty understanding the content of the questionnaires, were known to have psychiatric problems or did not have a permanent address.

Instruments

Due to pressure of time and space in the clinic, and maintaining client goodwill, it was decided that instrument completion time should not exceed twenty minutes. Therefore, all instruments were selected partly on the basis that they were relatively quick to complete.

The following instruments were used:

Alcohol Use Disorders Identification Test (Babor & LaFuente, 1992)

Alcohol Problems Questionnaire (Drummond, 1990)

Readiness to Change Questionnaire (Rollnick *et al.*, 1992)

Severity of Dependence Data (Raistrick & Davidson, 1983)

Social Satisfaction Questionnaire (Leeds Addiction Unit, unpublished)
Form 90(I) (Project MATCH)

In addition collection of collateral data, usually from a relative, was attempted for all participants and obtained for 44%.

Experimental procedure

Prior to the commencement of patient recruitment, three nurses were trained in motivational interviewing techniques by two clinical psychologists. This consisted of two sessions of 1 hour and 30 minutes respectively. In order to maintain intervention consistency, monthly meetings were held between the nurse, a clinical psychologist (the project manager) and research psychologist to revise the intervention procedure and discuss any problems. This was supported by an intervention manual of which nurses each had a copy. In addition, each nurse tape-recorded three intervention sessions and a team of two psychologists later independently assessed these.

Over a period of 18 months, patients were identified for study suitability by examination of A&E department records on a weekly basis (Monday morning). From this list, patients who then attended the University Dental Hospital for follow up appointments were interviewed regarding their suitability for the project. Patients were told what the study would involve and asked if they were willing to participate. One hundred and fifty-one patients were identified as fitting all inclusion criteria and consented to take part in the study. Patients were then randomly assigned to either the intervention or control groups. All subjects completed the baseline assessment questionnaires. The intervention group then received a brief alcohol intervention from a trained nurse, which usually lasted between five to fifteen minutes. A summary of the intervention strategies used by the nurses is shown below.

Summary of possible strategies for use during a brief intervention

<p>Opening Current lifestyle and stress Role of alcohol alcohol and health</p>	<p>Quick Assessment how motivated are you to change/confidant are you of success ? Scale of 1 to 10</p>
<p>Typical Day/Session Current Behaviour</p>	
<p>Agenda Setting Encourage patient to bring up topics and indicate direction of the consultation</p>	<p>Good things/bad things Ask about positive and negative aspects of alcohol use.</p>
<p>Information Provision/Exchange Establish patient's level of knowledge 'Would you be interested in information on.....?' Provide in a neutral way Ask patient for reaction 'What do you think of this?'</p>	
<p>Future and Present Contrast how patient is now, with how s/he would like things to be in future What's stopping you?</p>	

At 3 months, interviews were conducted in person at the University Dental Hospital or by telephone. If unavailable on the telephone, patients were requested to return follow up questionnaires by mail: 93% were successfully contacted at 3 months. At 12-month follow up, 122 patients (81%) were successfully followed up by letter or by telephone. Also at 12-month follow-up, interviews were conducted by telephone, or mail on a sub-sample of relatives (44%).

Results

Descriptive statistics

The sample comprised 151 males aged between 16 and 35 years, with a mean age of 24. Participants were randomly distributed between the control ($n=76$) and treatment ($n=75$) conditions.

The most frequently occurring cause of injury was assault, which accounted for 80% of all injuries. Of these, the majority involved unknown perpetrators ($n=69$) compared to 33 assaults in which the victim knew their assailants, and 19 incidents involving licensed premises door staff.

Just over 10% of the sample sustained their injury in a fall. Less common were road traffic accidents in which the injured party was a cyclist or pedestrian. In addition to this, just over 5% of the sample sustained their injuries whilst ‘messing around’. This term is used to describe a variety of accidental injuries.

The police were involved in approximately one third ($n=50$) of the incidents, either at the time or later. The majority of cases involving the police were assaults ($n=47$).

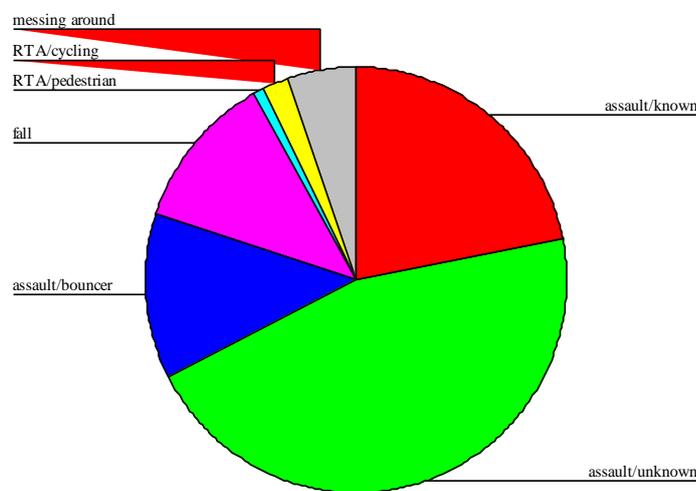


Figure 1: Cause of injury

Nearly half of the incidents (42.4%) took place in the street, while a further third of the incidents took place inside licensed premises, either public houses or nightclubs. Another 10.6% occurred immediately outside licensed premises. Other less common locations recorded included: food outlets (2.6%), taxi ranks (0.7%), the participants home (1.3%), another person’s home (6%) and other public places (2.6%).

Pre-injury alcohol consumption was measured in units and ranged from 8 (the minimum for inclusion in the study) to 66 units. Mean consumption in the hours leading up to the injury was 15.63 units. Almost half of the sample had consumed between eight and thirteen units suggesting that extremely high levels of alcohol consumption are not necessary to increase risk of injury. Over 80% of the sample had consumed between eight and twenty units.

Alcohol and drug use before the start of the study

Alcohol. Total alcohol consumption for the previous week at baseline ranged between zero and 106 units, with mean consumption being 25.10 units. Figures for alcohol consumption in a typical week were very similar ranging from three to 110 units, with a mean of 31.92 units. Peak alcohol consumption (defined as the maximum amount of alcohol consumed in one session) ranged from eight to 66 units with a mean of 17.54 units.

Total alcohol consumption for the 84-day period prior to admission to the study ranged between 40 and 1272 units. Mean consumption was 364.95 units. There was a higher concentration of individuals

with lower consumption: 50.3% of the sample consumed a total of between 40 and 273 units in the 84-day period. At the other extreme, just under one tenth (9.9%) of the sample had consumed a total of between 793 and 1252 units in the three month period.

Smoking. Over half of the sample (58.3%) reported smoking with modal consumption being between six and 10 cigarettes per day (18.4%).

Drug Use. Cannabis use was reported more frequently than any other drug use, with just under one quarter (23.2%) of the sample reporting some use of the drug in the previous 6-month period. Nineteen individuals (12.6%) reported using cannabis four times per week or more. Seven participants reported use of Ecstasy, with only one individual reportedly using this drug as often as 3 to 3 times per week. Very few individuals (under five) reported using cocaine or hallucinogens, and these drugs were only used on an occasional or monthly basis. No use of the following drugs was reported: barbiturates, heroin, methadone, other opiates, analgesics, inhalants, sedatives, hypnotics and tranquillisers.

Alcohol Use Disorders Identification Test

The possible range of AUDIT scores is between zero and 40, with a cut-off point of 8. Nearly all the sample (95.4%) scored above the cut-off point of 8, above which an individual's drinking can be said to be causing them some problems.

Alcohol Problems Questionnaire

The possible range of scores for the APQ is zero to 44 and in this study, scores ranged between zero and 26. Scores were biased towards the lower end of the scoring range, with 55.7 % of scores falling between two and six. Only 2.6% ($n=4$) scored zero on this scale suggesting that alcohol problems were being experienced to some extent by almost all the sample.

Readiness to Change Questionnaire

This instrument classifies individuals' readiness to change according to one of three stages of change: pre-contemplation, contemplation and action. According to this instrument, 36% of the sample were pre-contemplators, 37.3% were contemplators and 26.7% were in the action stage.

Severity of Dependence Data

It is possible to score between zero and 45 on the SADD and it is possible to categorise participants' level of dependence according to pre-existing cut-off points. Very few participants ($n=6$) scored zero (indicating no dependence symptoms) using this instrument. The large majority of the sample (72.2%) could be categorised as demonstrating low-level dependence (that is, they had a score of between one and nine). A further 21.2% could be categorised as having medium-level dependence (a score of between 10 and 19). Finally, only 2.7% scored over 20. Very few were severely dependent.

Social Satisfaction Questionnaire

This questionnaire has a possible score range of zero to 24, where the higher the score, the less satisfied is the respondent with their social situation. The sample recorded the full range of scores, although the majority of scores fell at the lower end of the continuum. A total of 29 participants (19.2%) scored zero on this scale indicating complete satisfaction with their social situation. Just over half (53.6%) of the sample were mildly dissatisfied with some aspects of their social situation. A decreasing number of study participants reported increasing levels of social satisfaction.

Measuring change

In the following analyses the effect of 'time' refers to the three occasions of testing (before intervention, 3-month and 1-year follow-up). The interaction effect tests whether there is a differential effect of the two treatments at 3-month and 1-year follow-up.

84-day alcohol consumption

For total alcohol consumption during the previous 3-month period, there was a significant main effect for time ($p<0.006$), and a significant interaction ($p<0.029$). This is shown in the graph below. There was a significant difference between the groups from baseline to 3 months ($p<0.017$) and baseline to 1 year ($p<0.026$).

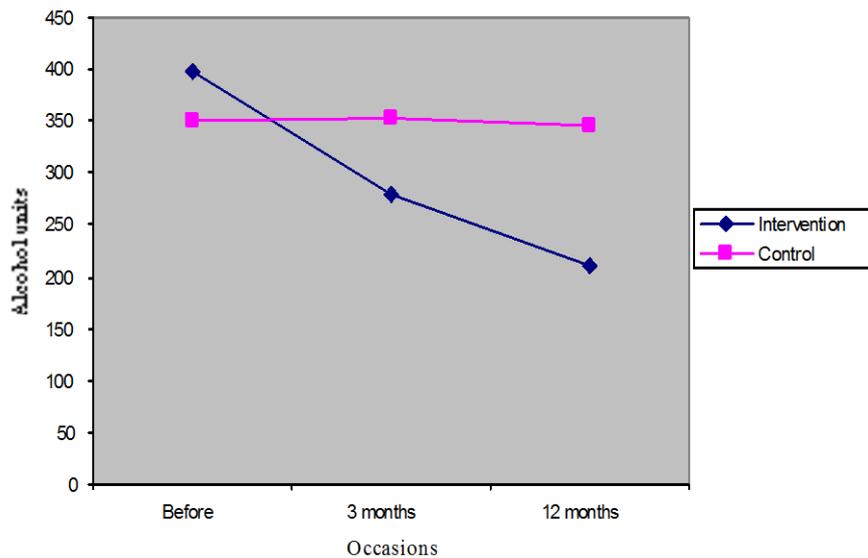
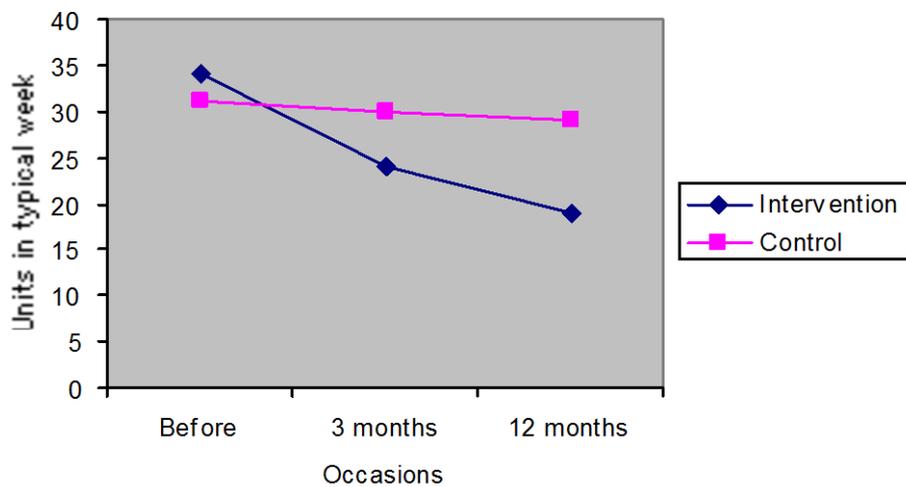


Figure 2: Units of alcohol consumed in previous 3 months

Alcohol consumption in a typical week

For total alcohol consumption in a typical week, there was a significant main effect for time ($p < 0.011$), and a significant interaction effect for time and treatment ($p < 0.039$). This is shown in the graph below. Independent Samples *T* tests demonstrated a significant difference between the groups from baseline to 3 months ($p < 0.015$) and baseline to one year ($p < 0.031$).

Figure 3: Units of alcohol consumed in a typical week



Alcohol related problems

For the APQ items used at all time points, a main effect for time was found ($p < 0.001$), but no significant interaction effects were found. However, there was a significant effect in favour of the intervention at the 12-month follow-up point when number of patients experiencing an alcohol related problem was considered ($p < 0.05$).

Effect of age

For the purposes of this analysis, the sample was divided into two age groups, 16 to 24 year olds and 25 to 35 year olds. No significant effects relating to age were identified.

Measures of successful outcome

While the concept of success is relative, it is possible to define it more objectively in a number of ways, according to desired outcome. If the aim of the intervention is to encourage individuals to reduce their alcohol consumption, one possible definition of success is alcohol consumption within the Royal Colleges' recommended healthy limits (21 units per week for men). Those individuals whose 84-day alcohol total is less than 252 units are within the recommended limits. The results for each time period are shown in Figure 4.

This number of individuals drinking above the recommended drinking levels reduced slightly by three-month follow up in the intervention group. The most noticeable decline was seen at 12-month follow up in the intervention group, where the percentage consuming above the recommended limits had fallen from 60% to 27%. The equivalent figures for the control group were 54% down to 51%.

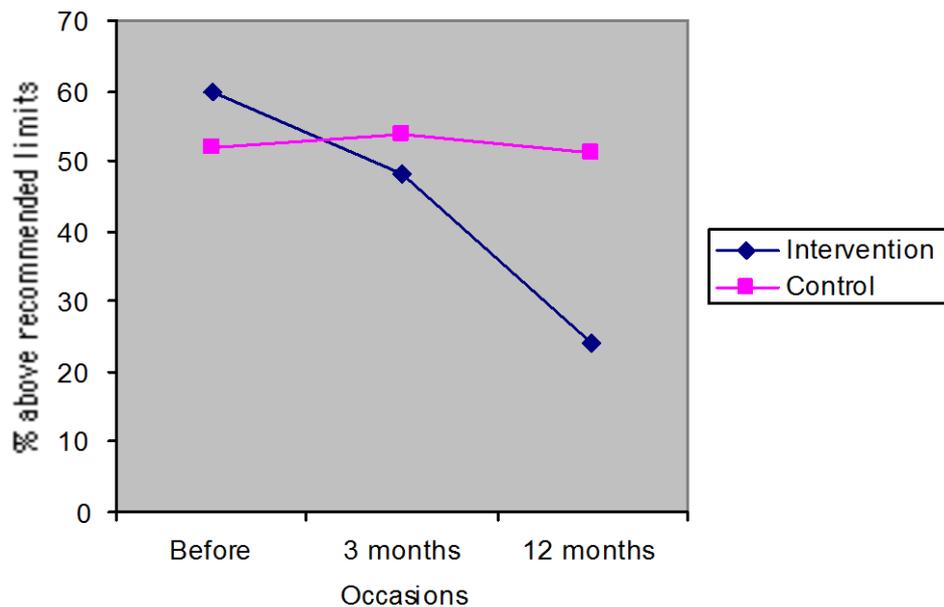


Figure 4: Percent drinking at above recommended limit of 20 units/week

Alcohol use disorders test

Figure 5 below shows changes in the percentage of individuals scoring above the critical cut-off point in the AUDIT at each time point. At baseline, very few scored below the cut-off point in either group. In the intervention group the percentage of problem drinkers drops from 94% at baseline to 58% at 12 month follow up. The figures for the control group are 96% and 81%.

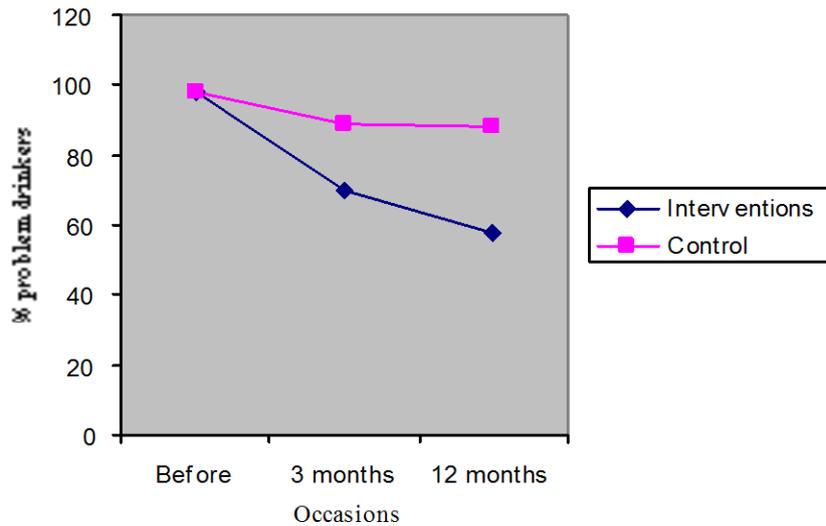


Figure 5: Per cent of problem drinkers identified by the AUDIT

Alcohol consumption predictive measures

Correlations were calculated on change scores for the two main outcome measures (84-day total alcohol consumption and alcohol consumption in a typical week) and baseline variables in order to identify factors predictive of changes in alcohol consumption. With regard to the change scores, it may be helpful to take into consideration the law of initial values. Applied in this context, this means that the higher an individual's alcohol consumption at baseline, the greater the possible decline in alcohol consumption recorded at follow-up whenever a change occurs.

There is indeed a general trend for high baseline alcohol consumption to be predictive of greater reductions in consumption. This is as predicted by the law of initial values but these results do indicate that change is possible (or probable) in those who are consuming larger amounts of alcohol.

Baseline measures	84-day alcohol total – change score	Consumption in typical week – change score
Abstinent days	-.249**	-.204*
Alcohol consumption- typical week	.457**	.459**
Alcohol consumption- past week	.139	.168
Peak alcohol consumption	.298**	.318**
84-day total alcohol consumption	.521**	.420**

Spearman's rho ** significant .01 level (2 tailed) * significant .05 level (2 tailed)

Relationship between relative's estimates and patients estimates of alcohol consumption

Correlations were calculated for all main collateral and patient follow up measures of alcohol consumption. All collateral measures were found to correlate significantly at the $p < 0.01$ level with their patient equivalent. This suggests that there is adequate correspondence between data provided by the study participants and their relatives.

In order to test how representative the collateral group were of the sample as a whole, t tests were performed on the main measures of alcohol consumption to test the hypothesis that there could be differences between patients providing a collateral and those who did not. Baseline 84-day alcohol consumption, 84-day alcohol consumption at 1-year follow-up, and the 84-day alcohol consumption change scores were tested, and no significant differences were found, therefore it is possible to be confident that the group for whom collateral data was available to not differ significantly from those for whom it was unavailable.

Summary of results

This research was concerned with the effect of a brief motivational intervention on alcohol related outcome measures. On the main outcome measures (84-day alcohol consumption and alcohol consumption in a typical week), alcohol consumption was found to decrease significantly in the whole sample over the 1-year period following injury but this decrease in consumption was found to be significantly greater in the treatment group. This trend was echoed in reductions in alcohol-related problems as well as the percentage of problem drinkers as identified by AUDIT. Measures that might be predictive of outcome were also examined. It was found that greater changes in alcohol consumption following injury are associated with greater levels of consumption during the three months prior to treatment. There was adequate correspondence between subjects' self-reports and relative's reports of alcohol consumption levels.

Discussion

Review of study aims

This research project had two main objectives; the first was to assess the effect of a brief intervention on alcohol consumption following an alcohol-related injury. The second objective was more general and involved assessing the feasibility of implementing brief interventions in the context of an oral surgery outpatient's clinic.

Objective 1

Much optimism has been evident in the literature about the role of brief interventions in the treatment of alcohol problems. Indeed, there is a risk of uncritical acceptance of interventions on the part of service providers. However, results from studies on brief interventions for alcohol related injuries have been inconsistent. Two studies (Anti-Poikka *et al.*, 1988, and Gentilello *et al.*, in press) both found a superior outcome for the treatment group. For example, in the study conducted by Anti-Poikka *et al.*, 20% of the control group, compared to 45% of the intervention group demonstrated significant changes in their GGT levels or alcohol consumption (described earlier). This sounds like an impressive difference, but other studies have yielded less promising results. Greber *et al.* (1997) studied trauma patients referred to a substance abuse treatment service two weeks after their initial consultation, and found that 73% had not followed any of the suggestions made during the consultation. In other words, the consultation only affected the behaviour of one quarter of the patients seen, despite the additional impact of traumatic injury. The results of the current study suggest that it is important to take a longer-term view of behaviour change, and consider consumption over the year following injury. It is possible that two weeks after an initial appointment may be too soon to see any change, as the injury is still a relatively recent event. Any behaviour change at this time might be more to do with convalescence or a 'knee-jerk' reaction to the injury, and perhaps unlikely to be sustained. In this study, the mean alcohol consumption of the intervention group decreased steadily in the year following injury, whilst in the control group, it stayed about the same over the year. This pattern was reflected in the percentages of individuals whose alcohol consumption was above recommended limits. At baseline, 60% of the intervention group and 54% of the control group's drinking fell outside these limits, but at 1-year follow up, 51% of the control group were above recommended levels compared to 27% of the intervention group. The 3-month follow-up showed little change in the control group (55% drinking above recommended limits) or the

intervention group (49% drinking above recommended limits). This demonstrates two things: an intervention following alcohol related injury does make a difference to the number of individuals who change their drinking behaviour and also that change takes time.

Similar results were observed when the Alcohol Use Disorders Identification Test was used as an indicator of alcohol problems. At the 12-month follow up point 58% of the intervention group were still drinking in a risky way compared to 80% in the control group.

Taking all of these results together there is good evidence that alcohol consumption declines following alcohol related injury and that an intervention adds to this change process.

The findings of the current study carried out within a maxillo-facial service compare well with the findings of studies of brief interventions carried out in other settings.

The most recent meta-analysis was conducted by Wilk *et al.* (1997) and based on 12 studies. The authors concluded that,

‘Heavy drinkers who received a brief intervention were twice as likely to moderate their drinking 6 to 12 months after an intervention when compared with heavy drinkers who received no intervention.’ (Wilk *et al.*, 1997, p. 274)

However, this does not provide any information on the extent to which these individuals moderated their drinking. In the review conducted by the Effective Health Care Review Team (1993), brief interventions were found to lead to a reduction in alcohol consumption of 20% or more in individuals whose consumption is elevated. In order to establish the relative effect of the intervention in this study in a way that is simple and meaningful, sensible drinking levels and AUDIT scores were considered.

At baseline, 96% of the control group and 95% of the intervention group scored above the cut-off point for hazardous drinking on the AUDIT, compared with 81% of the control group and 59% of the intervention group at one year follow up. These figures show that 15% of the control group moved from being hazardous drinkers at baseline to non-hazardous drinkers 1 year later. In the intervention group, this figure rises to 37%, demonstrating that a brief alcohol intervention appears to motivate an additional 22% of individuals to review and moderate their drinking behaviour. This difference is in line with Wilk *et al.*’s conclusion that a brief intervention makes a hazardous drinker twice as likely to moderate their drinking.

When looking at mean change scores for the intervention and control groups, for the 84-day alcohol consumption total, the intervention group reduced their consumption by a mean of 155 units, while the control group’s mean consumption increased very slightly with a mean of one unit. From baseline to 1 year follow up, this represents a mean decrease in consumption of 37% for the intervention group and mean increase in consumption of 1% for the control group. Interestingly, this mean reduction in consumption following an intervention is almost double that observed by Wilk *et al.* However, the subjects in these studies did not have injuries as a direct result of their drinking and therefore the extent to which they are comparable is unclear. It is possible that alcohol-related injury serves as an extra motivating force in encouraging people to reduce their consumption.

Objective 2

The second objective was concerned with assessing the feasibility of conducting brief interventions in an oral surgery department. This aim was very broad and exploratory in nature, but despite the optimism about brief interventions in the literature, a degree of pessimism surrounding feasibility issues suggested that in practical terms, implementing brief interventions might be a difficult task. The literature indicates reluctance on the part of medical personnel, to address the role of alcohol in trauma (Lowenstein *et al.*, 1990). It is also suggested that this reluctance is attributable to a variety of barriers including a lack of confidence in diagnostic ability, scepticism about the effectiveness of brief interventions, poor local substance abuse service provision, and a lack of time. Despite these potential problems, the current study has clearly demonstrated that a minimal amount of training can increase nurses’ confidence in conducting brief alcohol interventions, and that nurses can competently conduct these interventions with a minimum of inconvenience to themselves. In addition, the interventions are effective with a percentage of patients and can be conducted while carrying out other medical procedures, and therefore, a lack of time is not necessarily an issue.

Implications of the research and future study

The most important implication of this study on the level of patient care and hospital practice concerns the implementation of brief interventions for alcohol related injury as part of routine practice. The evidence from this study indicates that a proportion of young men who sustain alcohol related facial injury do change their drinking habits and that a nurse-led psychological intervention adds significantly to the proportion and magnitude of response. It has also been demonstrated that brief interventions can feasibly be conducted by nursing (or other medical) staff in an out-patients' clinic. Therefore, this research suggests that there is no reason why they could not become part of standard practice. From the point of view of the health care providers, further investigations into the cost effectiveness of such interventions in relation to the following issues would be desirable:

- Effect of interventions on injury prevention and financial savings as a result of not having to treat these injuries
- Where and when to intervene for best results in terms of the patient outcome and costs minimisation?
- Viability of training most staff to conduct interventions
- Ways of motivating medical personnel to conduct these interventions without a research co-ordinator present

There are some further issues raised by this project that ideally would require further research attention. The need to research further what happens during the intervention session and testing hypotheses about what leads to behaviour change has already been mentioned. Finally, further information about repeat injury incidents would be useful. In this study, insufficient repeat injuries were encountered to allow any statistical analyses to be conducted. In one way this is a good result, but it also means that it is not possible to determine the effect of an intervention on repeat injury which would be of central concern to health-care providers making decisions about wider implementations of brief interventions.

Conclusion

The previous section has reviewed the results of this study in relation to the literature and the project aims. The study found that a brief intervention following alcohol related facial injury leads to a significant reduction in alcohol consumption at one-year follow-up. It also found that it was realistic and feasible to carry out brief interventions in an oral surgery outpatients' clinic. The findings were subject to certain limitations, and these included that fact that no analyses could be performed in order to determine the effect of an intervention on subsequent re-injury rates (as the re-injury rates were too low). However, it has been demonstrated that brief alcohol interventions are worth conducting and that they will play a part in assisting a proportion of young males to review and modify their drinking behaviour. Future approaches should take a public health focus emphasising prevention and increasing public awareness of alcohol, injury and health issues.

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