Military Medicine, Vol. 146, 200-204, 1981

Patterns of Drinking and AA Attendance Following Alcohol Rehabilitation

Douglas Kolb, M.S.W. *
Patricia Coben, A.A. **
Norma A. Heckman, M.A. ***

Previous studies of outcome for Navy enlisted men treated in alcohol rehabilitation facilities have relied heavily upon completion of obligated service, type of discharge awarded, and recommendation for reenlistment as criteria of effectiveness (1,2). These effectiveness criteria reflect primarily the disciplinary problems a man has experienced during his service career, whether or not the infractions were associated with drinking. Among older men (age 26 or older), post-treatment effectiveness rates by these criteria have approached 90 per cent; among younger men effectiveness rates have ranged between 55 and 60 per cent, not very different from the effectiveness rate for young men in their first enlistments not involved in alcohol treatment (3).

Navy rehabilitation programs rely heavily on an Alcoholics Anonymous (AA) approach and discourages any continued use of alcohol. Men leaving rehabilitation are encouraged to continue participation in AA, and are advised whom to contact at their next duty station. No information has been systematically obtained from former rehabilitation participants about their post-treatment experience, including alcohol consumption patterns and participation in AA. The present study was designed specifically to gather such information in an effort to provide a rational basis for assessing treatment goals and methods.

Method

Participants

Subjects were 537 Navy enlisted men who participated in alcohol rehabilitation programs. Originally, all individuals who met the following criteria were included in the prospective follow-up sample: (1) admitted to alcohol rehabilitation during the period 1 January 1977 through 30 June 1978; (2) completed a biographical

From the Naval Health Research Center, San Diego, Calif. 92138.

* Head, Psychiatric Effectiveness Branch, Environmental and Social Medicine Div.,
** Staff Technician.
*** Staff Psychologist.

questionnaire; (3) completed pre- and post-treatment Comrey Personality Scales; and (4) remained on active duty until September 1978 or longer. Only 1,592 participants fulfilled all of these requirements, however, which was considered too small a number to proceed. An additional 408 participants were randomly selected for inclusion in the sample, who met only the first, second, and fourth criteria. This procedure provided a total of 2,000 participants which was considered an adequate sample.

Because of the requirements that subjects remain on active duty until September 1978, the resulting sample tended to be slightly biased toward inclusion of older, career men at higher pay grades with more years of service. Thus, the final sample was composed of approximately 60 per cent older men (age 26 or older), compared with 55 per cent in the local rehabilitation population (2), Subjects were subsequently divided into younger and older groups for purposes of analysis, however, which removed the possible effects of such bias.

TABLE I

COMPARISON BETWEEN YOUNGER AND OLDER GROUPS ON POST-TREATMENT SOBRIETY AND AA ATTENDANCE

	Younger Group Per Cent	Older Group Per Cent	t
Post-Treatment Alcohol Use			
Non-drinker	23	57	−8.25*
Social Drinker	29	24	1.23
High Drinker	29	12	5.12*
Problem Drinker	19	8	3.86*
Post-Treatment AA Attendance			
Attend AA regularly	12	24	−3.50*
Attend AA occasionally	18	31	−3.44*
Did attend AA but no longer do	31	27	1.01
Have not attended AA	40	18	5.77*
N	218	319	

*$p \leq .01$.

Procedure

One-page questionnaires were mailed to the sample of 2,000 individuals using military addresses available as of September 1978. Of the 2,000 forms, 223 were returned by the Post Office because of incorrect addresses or unknown new addresses. Another 120 subjects were discharged from the Service between September 1978 and January 1979; the latter date was the approximate time when the questionnaires should have been received. These subjects probably never received questionnaires. Thus, because of the above losses and other transfers, discharges, and temporary absences from duty, etc., approximately 1,500 of the questionnaires mailed were actually received. Of the 569 returned questionnaires, 32 were unusable for one or more of the following reasons: obliterated identification numbers; missing data, or not male. The number of female subjects was too small for meaningful analysis, so only

males were included. An additional 16 questionnaires were received after the analysis of the data had been completed and, therefore, were not included in the sample.

Participants were asked to provide information about their post-treatment use of alcohol, attendance at AA, and current use of Antabuse. They also were asked to rate each of eight treatment elements present in all programs on the following scale: "Not Helpful," "Moderately Helpful," or "Very Helpful." In addition, they were asked to rank order the eight treatment elements in terms of their importance to the individual. Finally, they were asked if they would recommend the rehabilitation program to a friend, and they were invited to make comments about the program.

The 537 subjects with acceptable questionnaires were divided into a younger group, age 25 or younger (N=218) and an older group, age 26 or older (N=319). This division created more homogeneous groups for analysis and largely controlled for variance attributable to age and years of service. Comparisons between these older and younger groups on responses to the follow-up questionnaire were first conducted using t-tests for independent groups. Each of the groups was then further subdivided into four groups based on responses to the question about alcohol use, "Have you remained sober since leaving the rehab program?" The possible responses and group designations were: Non-Drinkers ("Yes, I have not had any alcohol"); Social Drinkers ("Yes, I drink socially but know when to stop"); High Drinkers ("No, I have been "high" but have not had any problem"); and Problem Drinkers ("No, I have had problems with alcohol") Relationships between these groups and the responses to other follow-up questions were analyzed using one-way analysis of variance. Where significant F-ratios were obtained, post-hoc between group comparisons were computed, using the Scheffe t-test.

There were extensive missing data for the question asking that the program elements be ranked in importance. For this reason the question was omitted from all analyses.

TABLE II

RELATIONSHIP BETWEEN POST-REHABILITATION AA ATTENDANCE AND DRINKING BEHAVIOR

AA Attendance	% Non-Drinkers	% Social Drinkers	% High Drinkers	% Problem Drinkers	% Total	F-ratio
			Younger Alcoholics			
Attend regularly	36	0	0	17	12	19.8*
Attend occasionally	24	14	14	20	18	0.8
Did attend, no longer do	22	48	25	27	31	3.9*
Have not attended	18	38	60	36	40	7.7*
N	50	63	63	41	217	
			Older Alcoholics			
Attend regularly	37	1	0	28	24	20.0*
Attend occasionally	32	36	22	20	31	1.3
Did attend, no longer do	20	31	46	32	27	4.0*
Have not attended	10	32	32	20	18	8.1*
N	182	75	37	25	319	

*p<.01.

Results

The mean ages for the younger and older groups were 21.4 and 32.6 years, respectively. Comparisons of the two groups on the question pertaining to post-treatment drinking behavior and AA attendance are shown in Table 1. More than half of the older men (57 per cent) reported that they had remained sober and had not had any alcohol; only 23 per cent of the younger groups reported no drinking following rehabilitation. Approximately one-fourth of both groups described themselves as social drinkers. Of the younger men, 29 per cent reported drinking to get "high" but denied problems; 12 per cent of the older men gave the same response. The percentages that reported drinking and having problems were 19 per cent for younger and eight per cent for older men. Differences between age groups on the Non-Drinker, High Drinker, and Problem Drinker response categories were statistically significant.

Distributions of the two groups on post-treatment AA attendance also are shown in Table 1. Significantly larger percentages of older than younger men reported attending AA regularly or occasionally, whereas younger men significantly more often reported not attending AA at all. There was no significant difference in percentage reporting "did attend AA but no longer do."

Relationships between post-rehabilitation drinking behavior and AA attendance for the two groups separately are shown in Table II. For both groups, alcohol use and AA attendance were highly related. Three of the four AA attendance responses - attend regularly, did not attend but no longer do, and have not attended - showed significant variations with resect to alcohol use categories. Only "attend occasionally" did not discriminate with respect to the alcohol use classification. Particularly noteworthy was the fact that none of the Social Drinker and High Drinker groups had attended AA regularly while substantial numbers of the Non-Drinker groups had (36 and 37 per cent). Also, a large proportion of young men in the High Drinker group (60 per cent) seemed to reject AA attendance altogether.

More detailed comparisons among alcohol use groups are provided in Table III. Largest differences were between Non-Drinker and Social and High groups. For both younger and older men, as indicated previously, regular AA attendance was much more often reported by Non-Drinkers than Social Drinkers. Also, among younger men, regular AA attendance was reported more often by Non-Drinkers than Problem Drinkers; for the older group, no significant difference was obtained between Non-Drinkers and Problem Drinkers. Among both younger and older groups, Social Drinkers less often reporting attending AA regularly than did Problem Drinkers. Similarly, for younger men only, High Drinkers were less often regular AA attendees than Problem Drinkers. The response "Did attend but no longer do" was given more often by Social Drinkers than Non-Drinkers among younger men, and more often by High Drinkers than Non-Drinkers among older men. "Have not attended AA" was a more frequent response of both Social and High Drinkers than Non-Drinkers, in both younger and older groups.

TABLE III

SIGNIFICANCE OF COMPARISONS BETWEEN ALCOHOL USE SUBGROUPS ON POST-TREATMENT AA ATTENDANCE

	Non-Drinkers versus			Problem Drinkers versus	
AA Attendance	Social	High	Problem	Social	High
Younger Men					
Attend regularly	6.66	6.66	3.15	2.98	2.98
Did attend, no longer do	−2.97	ns	ns	ns	ns
Have not attended	−4.77	ns	ns	ns	ns
Older Men					
Attend regularly	6.68	5.27	ns	2.94	ns
Did attend, no longer do	ns	3.25	ns	ns	ns
Have not attended	−4.28	−3.32	ns	ns	ns

$p < .05$ (Scheffé test)

TABLE IV

COMPARISON OF AGE GROUPS ON RATINGS OF TREATMENT ELEMENTS[a]

	Younger Group		Older Group		
Treatment Element	Mean	S.D.	Mean	S.D.	t
Group therapy	2.64	.56	2.66	.54	.41
AA	2.28	.75	2.51	.68	3.64**
Antabuse	1.86	.74	1.94	.80	1.15
Just being there	2.38	.62	2.52	.58	2.63**
Decision to get help	2.60	.65	2.79	.51	3.73**
Diet-exercise	2.39	.65	2.29	.67	1.70
Relationship with counselor	2.33	.70	2.47	.64	2.37*
Other personal relationships	2.50	.63	2.46	.62	.72
N	211		308		

[a] 1 = Not helpful; 2 = Moderately helpful, and 3 = Very helpful.
** $p < .01$.
* $p < .05$.

Using analysis of variance, the mean ratings of helpfulness given by the younger group on the eight treatment elements were compared, and the analysis was repeated for the older group. Significant differences in the overall perceived helpfulness of the elements was noted for both groups - $F(1,206)=35.40$, $p.<.01$ and $F(1,293)=54.79$, $p.<.01$, respectively. Both groups rated the decision to get help and group therapy as most helpful, and Antabuse therapy as least helpful. For the younger group, AA was next least helpful; for older men diet-exercise received low ratings. When the mean ratings of the eight elements were compared for the two groups, older men rated four elements as most helpful than did younger men: AA, just being there, decision to get help, and relationship with counselor (Table IV).

Variations in treatment element ratings in relation to post-treatment drinking patterns are shown in Table V. For the younger group there were significant differences in the perceived helpfulness of three program elements - AA, the decision to get help, and relationship with counselor. Non-Drinkers rated AA as more helpful tan did Social Drinkers ($t=3.61$, $p<.05$) or High Drinkers ($t=3.73$, $p<.05$); Problem Drinkers also rated AA as more helpful than did High Drinkers ($t=-2.82$, $p<.05$). Non-Drinkers rated the decision to get help and relationship with counselor as more helpful than did High Drinkers ($t=4.45$, $p<.05$ and $t=3.66$, $p<.05$, respectively). For the older men, comparisons among the four subgroups were significant for all program elements, except Antabuse therapy and diet-exercise. However, between group comparisons were significant for just three of the remaining six elements, and Non-Drinkers rated all three of them as more helpful than did High Drinkers - AA ($t=3.25$, $p<.05$), relationship with counselor ($t=3.82$, $p<.05$), and other personal relationships

(t=3.37,p<.05. Non-Drinkers also rated AA as more helpful than did Social Drinkers (T=4.76,p<.05).

Small percentages of younger men (eight per cent) and older men (nine per cent) reported taking Antabuse at the time of the follow-up. There was a significant relationship overall between post-treatment alcohol use and taking Antabuse for younger men, f(3,216)=2.74,p<.05. None of the between group comparisons achieved significance, however. This relationship also was significant for the older group, (F3, 318)=15.69, p<.05; Problem Drinkers reported taking Antabuse more often than Non-Drinkers (t=6.31,p<.05), Social Drinkers (t=6.42,p<.05) or High Drinkers (t=5.91,p<.05).

Nearly all of the older men, 98 per cent, said they would recommend the program to a friend; 90 per cent of the younger men responded similarly. The difference was significant(t=-3.64,p<.05).

TABLE V

COMPARISON OF POST-TREATMENT ALCOHOL USE GROUPS ON RATINGS OF TREATMENT ELEMENTS[a]

	Non-Drinkers		Social Drinkers		High Drinkers		Problem Drinkers			
Treatment Element	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	F	df
				Younger Men						
Group therapy	2.78	.42	2.60	.56	2.58	.64	2.63	.56	1.31	3,213
AA	2.59	.67	2.10	.72	2.08	.73	2.49	.74	7.18**	3,213
Antabuse	1.98	.66	1.79	.75	1.71	.77	2.02	.76	2.09	3,210
Just being there	2.53	.54	2.38	.64	2.32	.65	2.31	.61	1.30	3,212
Decision to get help	2.88	.33	2.60	.66	2.34	.73	2.63	.66	6.68**	3,212
Diet-exercise	2.47	.58	2.31	.74	2.48	.59	2.27	.67	1.44	3,212
Relationship with counselor	2.57	.54	2.31	.71	2.10	.72	2.44	.71	4.89**	3,214
Other personal relationship	2.62	.53	2.50	.65	2.42	.67	2.46	.64	1.02	3,213
N	49		62		62		41			
				Older Men						
Group therapy	2.73	.49	2.66	.53	2.51	.66	2.44	.58	3.34*	3,310
AA	2.66	.61	2.22	.70	2.26	.71	2.56	.71	9.32**	3,306
Antabuse	1.94	.77	1.82	.82	1.88	.80	2.28	.89	2.12	3,307
Just being there	2.61	.53	2.41	.66	2.51	.56	2.28	.61	3.67*	3,308
Decision to get help	2.86	.42	2.71	.57	2.71	.57	2.60	.71	3.30*	3,306
Diet-exercise	2.26	.66	2.30	.64	2.23	.81	2.48	.65	.85	3,308
Relationship with counselor	2.58	.59	2.38	.70	2.14	.60	2.36	.64	5.87**	3,309
Other personal relationship	2.55	.56	2.44	.62	2.17	.71	2.25	.68	4.90**	3,306
N	178		73		35		25			

**$p<.01$.
*$p<.05$.
[a]Treatment elements were rated on a three-point scale from "Not helpful" to "Very helpful."

Discussion

The most striking finding was that 43 per cent of the older men and 77 per cent of the younger men reported that they continued drinking alcohol following rehabilitation. The finding is of particular interest because AA is the main thrust of the Navy alcohol rehabilitation programs, and participants are strongly encouraged to accept themselves as alcoholics who cannot drink. The great majority of the younger participants in the study clearly did not identify themselves as alcoholics. Even among older men, more than one-third indicated that they continued to drink without

experiencing problems. It should be noted that what constituted a problem was not specifically defined in the follow-up questionnaire, and that with more specific information about the individual's job performance, personal relationships, family stability, etc., the determination of problem-free status might change. Despite this caveat, it is clear from the ratings given to the program elements that AA was not considered as helpful as other elements, particularly the decision to enter treatment or participation in group therapy. In the younger group, AA was rated as among the least helpful of program elements. Only Antabuse therapy was rated as less helpful than AA by younger men. This further supports the conclusion that the majority of these men did not consider themselves alcohol dependent and in need of treatment directed toward addiction. Younger men possibly evidenced a lesser degree of involvement in treatment than older men, as indicated by lower ratings of helpfulness for several treatment elements in addition to AA. However, a large percentage of younger men said they would recommend the program to friends, which indicated general acceptance of the experience.

When the ratings of helpfulness of treatment elements were analyzed according to post-treatment drinking patterns, differences between Non-Drinkers and High-Drinkers were most often significant. That is, High-Drinkers rated such elements as decision to get help, relationship with counselor, and other personal relationships as less helpful than did Non-Drinkers. One might have expected that those men experiencing post-treatment problems with drinking would have given the lowest ratings overall but, on the contrary, the Problem Drinkers' ratings were more similar to those of Non-Drinkers than to the other groups. Why High Drinkers gave such low ratings is not clear from the present data, but it implies a rejection of the need for help by men whose post-treatment drinking behavior includes potential loss of control.

There was a strong positive relationship between complete sobriety and regular AA attendance. This was true for the younger group, where a significantly larger proportion of Non-Drinkers attend AA regularly than any of the other three subgroups of alcohol users. Among older men, Non-Drinkers attend AA regularly much more often than Social and High Drinkers, but not more often than Problem Drinkers. This suggests that many of the older Problem Drinkers continued to struggle with sobriety and looked to AA for help. Even among younger men, those experiencing problems attend AA regularly more often than Social or High Drinkers. The Social and High Drinkers more frequently indicated that they had not attended AA, or that they had discontinued attending, which seems consistent with their apparent lack of concern about their alcohol abuse patterns.

The sample bias, that is, a disproportionate number of older men returning questionnaires noted earlier, was partly due to the fact that younger men were more frequently released from the Service before the end of the follow-up period because of unsatisfactory performance. Also, younger men who remained on duty throughout the follow-up period tended to have better performances records than those who did not. However, such differences between responders and non-responders actually were small, and would tend

to result in slightly underestimating the severity of post-treatment drinking problems in the responder sample.

Overall, the results of the present study suggest that alcohol treatment as presently provided with its heavy emphasis on AA is appropriate and effective for a reasonable percentage of the men being admitted, particularly among those over 26 years old. Further study should be directed towards helping those men who continue to see AA as helpful, but who are unable to stop drinking or to control their drinking. Planned analyses of the rehabilitation records of men in this follow-up population may provide clues as to their unique characteristics and problems at the time they entered rehabilitation.

It was reasonably clear that the majority of younger men who returned follow-up questionnaires did not consider themselves alcohol dependent. It also seems evident that many of them failed to accept the seriousness of their involvement with alcohol. It may be that they were not, indeed, alcoholic, but rather were men with behavioral problems of which alcohol abuse was merely a symptom. Further follow-up of the groups represented in the present study should reveal any important relationships between post-treatment drinking behavior and AA attendance and subsequent military performance, specifically whether men who attend AA and maintain sobriety have a more favourable post-treatment performance record than men who do not.

Summary

Follow-up information from Navy enlisted men who completed treatment in alcohol rehabilitation facilities indicated relatively large percentages continued to drink alcohol. The majority reported their drinking had not caused them problems. There was a strong association between not drinking and AA attendance for both younger (<25 years old) and older (>26 years old) men. Among problem drinkers were men who valued AA but continued to have difficulty controlling their drinking. Both younger and older men rated group therapy and the decision to get help as most helpful of eight treatment elements. Antabuse therapy was rated by both groups as least helpful; younger men rated AA as next least helpful.

Present treatment programs, with their heavy emphasis on AA, appear to be working well for older men. Younger men, however, are less accepting of the AA approach and apparently do not consider themselves alcohol dependent.

References

1. Kolb, d., Pugh, W.M. and Gunderson, E.K.E.: Prediction of post-treatment effectiveness in Navy alcoholics. J. Stud. Alcohol, 39:192-196, 1978.

2. Kolb, D., Gunderson, E.K.E., and Coben, P.: Population differences and correlates of post-treatment effectiveness in alcohol rehabilitation facilities. Report No. 78-48, Naval Health Research Center, San Diego, Calif. 1978.

3. Navy program makes best of poor performers. Navy Times, May 28, 1979, p.14.