Recruiting Rural Dentally – Avoidant Adolescents into an Intervention Study

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Abstract

AIM: To carry out a study designed to test an intervention to increase dental attendance in rural dentally-avoidant adolescents, to identify and recruit eligible adolescents. STUDY DESIGN AND METHODS: This study used a cross-sectional design to identify eligible adolescents. A total of 2,762 adolescents (60% of the enrolled students) from junior high and senior high schools in a rural county in Washington State (USA) were given a dental examination with a light and mirror by calibrated dental examiners using WHO criteria. Parents of children with serious dental needs were urged to seek dental care for their adolescent children. They were offered the chance to enrol their child in a study comparing two programs designed to help the adolescent decide whether to seek out dental care. A second group of emancipated adolescents and young adults (aged < 26 years) receiving services at the local college and health department was also screened, and eligible individuals were also offered the chance to enrol. RESULTS AND STATISTICS: Only 23 (6%) of 357 eligible junior and senior high school adolescents enrolled, compared with 24 (67%) of the 36 eligible emancipated adolescents and young adults. A second follow-up letter was sent to the 85 parents of un-enrolled adolescents with the most severe caries, offering direct assistance in obtaining dental care for their children; only 3 families responded. CONCLUSIONS: This study illustrates the difficulty in engaging adolescents in their oral health and utilization of oral health interventions. The results also suggest that slightly older rural individuals are more interested in and/or able to overcome barriers to seeking out dental care. Alternative strategies are suggested for recruiting avoidant adolescents.

Introduction

Lack of dental treatment leads to serious dental problems and a lowered quality of life [Berggren and Meynert, 1984]. Rural children in North America, as elsewhere, have higher rates of dental disease than the rest of the population [Caplan and Weintraub, 1993], making it particularly important to ensure that they attend the dentist regularly. Among rural children, adolescents are an important target group as they are no longer under direct parental supervision and may decide on their own to stop making dental appointments [Gatchel 1989; Todd and Lader, 1991; Hawley and Holloway, 1992; Adekoya-Sofowora et al., 1996]. Further, as adolescents may soon be parents themselves, their dental behaviours are likely to influence the dental health of the next generation.

Dental caries penetrating into dentine may be an indication that the adolescent has elected not to visit a dentist for at least a year, in that caries of this magnitude has likely been present for at least a year [Shwartz et al., 1984; Mejare et al., 1999], and is likely to have been noticed by the adolescent him/herself. Using this criterion for dental avoidance, cases (adolescents with dentine or more severe caries) were matched with controls (adolescents with a similar history of treated caries but no current dentinal caries) in a rural area in Washington state [Skaret et al., 2004]. Cases rated both their own oral health and that of their mothers as being significantly poorer than that of a control group of children. Furthermore, those adolescents stated that they did not plan to go to a dentist, although they recognized that they had severe dental problems [Skaret et al., 2004]. A second study with adolescent dental avoiders demonstrated the feasibility of using a brief counselling technique as an intervention to increase the likelihood that such adolescents would decide to go to a dentist [Skaret et al., 2003].

The aims of the research were firstly to screen adolescents in a rural county in Washington State in the USA and to estimate the prevalence of severe untreated dental caries. The second aim was to recruit adolescents with more severe untreated visible caries into an intervention study; and finally to compare the effectiveness of two brief counselling interventions to increase the number of adolescents who decide to seek out dental care. This preliminary paper will report the results of the first two aims only (screening and recruitment efforts).

Materials and Methods

Junior High and Senior High Schools: Consent letters were mailed to all parents describing the dental screening, and also stated that some adolescents would be eligible for another dental project (i.e., the intervention study) for which they would be paid. Parents were directed to inform their school if they did not want their child to be screened. Students whose parents had not declined to allow them to participate in the screening gave verbal assent at the time of the screening.

Key words: dental avoidance, adolescent, rural population, research subject recruitment

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Parents of these adolescents were sent a new letter offering participation in the intervention study. After recruitment ended, the most severe caries (D3 or D4) who had refused to participate was less successful than anticipated (see Results), some of those who were interested signed assent forms. (This was not disclosed to the adolescents or their parents required that both parents and adolescents sign consent/assent forms to participate in the intervention study. In the first year, eligibility was defined as having at least one tooth coded D2 (or higher). As recruitment was low, in the second year the criterion was lowered to having at least one tooth coded D3 (or higher). Recruitment into the intervention study: Because almost all of the students were minors, the Institute Review Board required that both parents and adolescents sign consent/assent forms to participate in the intervention study. In the first year, eligibility was defined as having at least one tooth coded D3 (or higher). As recruitment was low, in the second year the criterion was lowered to having at least one tooth coded D2 (or higher).

After the school-based screening, all parents received letters describing the extent of their children’s dental needs. Parents of children who met the eligibility criterion were urged to seek dental care for their children and were offered the chance to enrol their child in the intervention study. The study was described as a comparison of two different methods, both of which were designed to encourage adolescents to seek dental care. Adolescents would be paid $20 for their participation. Interested parents signed consent forms. Eligible adolescents also received information about the study; those who were interested signed assent forms.

For ethical reasons, free dental care was arranged for those adolescents who enrolled in the intervention study and decided to go to a dentist but did not have the resources to pay for care. (This was not disclosed to the adolescents or their parents in recruitment materials.) However, as recruitment was less successful than anticipated (see Results), some of the free dental care was allocated to those adolescents with the most severe caries (D3 or D4) who had refused to participate in the intervention study. After recruitment ended, the parents of these adolescents were sent a new letter offering assistance in obtaining dental care for their child.

Other Special Adolescent and Young Adult Populations: When initial recruitment efforts were not as successful as had been hoped (see Results), two additional groups of older adolescents and young adults, thought to be likely to have serious dental problems due to low income, were screened. The groups included adolescents in at-risk programs from a local college and young clients (under age 26 yrs) from the local health department. Screening and recruitment procedures were similar, except that these individuals were screened at either the college or the local health department, and did not require parental consent for either the screening or enrolment into the study as they were of legal age or emancipated.

Results

Junior and Senior High School Screenings and Recruitment: The superintendents of all 22 junior high and senior high schools in the county agreed to participate. A total of 2,762 adolescents from 20 of the 22 schools were screened, representing 60% of the junior and senior high school population in the county. As seen in Table 1, 357 (13%) of them had severe caries and qualified for the intervention study of whom 23 agreed to be in the study. One additional parent gave consent for her adolescent, but the adolescent refused to participate. Of the adolescents who had refused to enrol 85 had caries of D3 or D4, and a letter offering direct assistance in obtaining dental care was mailed to their parents. Only 3 of the 85 parents responded to the offer.

Special Adolescent Screenings and Recruitment: There were 63 individuals screened from the special adolescent at-risk programs at the local college. As summarized in Table 1, 16 individuals qualified for the study but only 7 enrolled in the study.

Health Department Screenings and Recruitment: A total of 59 young adults under age 26 years were screened at the local health department. As seen in Table 1, 20 individuals qualified for the study, and 17 of these agreed to be in the study. Thus, a total of 36 out of 122 (30%) of the older adolescents (from the at-risk special adolescent programs) and young adults (health department clients) were eligible for the study. Of these 36, 24 (67%) agreed to be in the study.

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**Table 1: Screened Individuals, Eligible Individuals, and Enrolled Individuals by Source in a study of adolescents in Washington County (USA).**

<table>
<thead>
<tr>
<th>Source</th>
<th>Number Screened</th>
<th>Number Eligible for Intervention Study (% of Individuals Screened)</th>
<th>Number Enrolled in Intervention Study (% of Eligible Individuals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior High and High Schools</td>
<td>2,762</td>
<td>357 (13%)</td>
<td>23 (6%)</td>
</tr>
<tr>
<td>At-Risk Programs</td>
<td>63</td>
<td>16 (25%)</td>
<td>7 (44%)</td>
</tr>
<tr>
<td>Health Department</td>
<td>59</td>
<td>20 (34%)</td>
<td>17 (85%)</td>
</tr>
</tbody>
</table>