

## Smoking Cessation Treatment on the Internet

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Leopoldo Sánchez Agudo and José María Carreras Castellet

Unidad de Tratamiento del Tabaquismo, Servicio de Neumología, Hospital Carlos III, INSALUD. Madrid, Spain.

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The demand for help with smoking cessation has increased in recent years owing to improved health information, increased social and legislative pressure on smoking behavior, and smokers' own perception of the effects of tobacco. Furthermore, since technical protocols for smoking cessation have been refined, and scientific evidence on efficacious measures and drugs has been reported,<sup>1-5</sup> the method for smoking cessation has become well established, as reflected in clinical practice guidelines.<sup>6,7</sup> In fact, in the last 20 years, treatment for smokers has been clearly standardized into 2 types: drug therapy and counseling therapy, both of which share many of the features of self-help programs used to treat chronic diseases such as asthma, chronic obstructive pulmonary disease, and diabetes. One of these features is follow-up, which was already known to be effective by Russell et al<sup>8</sup> and which has more recently been shown to have a dose-response effect<sup>6</sup>; in other words, a larger proportion of smokers under treatment quit smoking the more often they receive follow-up visits and support sessions. However, this evidence comes up against the difficult matter of health care resources available for helping smokers to quit: primary care physicians must make a concerted effort to gain a few minutes more to dedicate to patients so it seems unlikely they would have enough time for anything but minimal intervention. In addition, personalized treatment centers for smokers, based on volunteer help and the dedication of committed professionals, receive little help from institutions—with notable exceptions, such as those in the autonomous communities of Castile-La Mancha and Navarre. Treatment for smokers, therefore, is conditioned by 3 fundamental circumstances: the need for professional help, high demand, and scarce resources.

To this general scenario we should add another factor: many people cannot or do not want to go to a health care facility for help in smoking cessation. The reasons are various, not only because they have no such facility within a reasonable distance. They may also be unable to fit it into their work schedules, believe the effort to

quit will not pay off in commensurate results, or feel able to quit on their own. They may also simply be unaware of the implications of dependency and not want others to know they need help with something like smoking cessation.<sup>9</sup> These circumstances surely underlie the fact that a high percentage of smokers attempt to quit with no help<sup>10</sup> and only an insignificant minority of self-quitters succeed in long-term abstinence, which is the aim of health care measures.<sup>11</sup> It seems evident therefore that we should offer counseling services that are more accessible in terms of both time and place and that guarantee privacy without being impersonal.

Telephone hot lines (quitlines) were the first approach to a solution. Initially set up to resolve doubts and direct smokers to existing resources, hot lines soon began to offer proactive intervention and follow-up,<sup>12</sup> confirming once again, as with face to face treatment, that the more frequent the follow-up sessions, the higher the rate of abstinence.<sup>13</sup> Hot lines have been adopted as a prominent, integral part of national smoking prevention programs in countries with developed smoking cessation services,<sup>14</sup> and the utility of telephone counseling has been widely reported.<sup>15</sup> A comparison of a group of 176 individuals treated proactively by telephone and mail was compared with another group of 207 with similar characteristics but treated conventionally in our department with nicotine replacement therapy and 11 contacts or sessions. When the program ended at 6 months' follow-up, there was no significant difference in the proportion of abstainers between the groups (54.5% and 54.6% respectively).<sup>16</sup> These results show the validity of telephone counseling in our practice setting too.

Such data support the argument that telephone-based treatment of smokers can achieve results acceptable enough to warrant the inclusion of this type of intervention in clinical practice. However, even assuming a lower rate of abstinence with such therapy, if it is available to a larger number of smokers, the decrease in the smoking population will clearly be greater than that achieved through conventional medical consultation, and the health care system will more easily and quickly have an impact on tobacco use.

The World Health Organization, which attributes 4 million deaths annually to tobacco use and dependence, considers the phenomenon epidemic in magnitude. As with any epidemic, approaching tobacco use and dependence requires measures that enable the largest number of

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Correspondence: Dr. L. Sánchez Agudo.  
Unidad de Tratamiento del Tabaquismo. Servicio de Neumología.  
Hospital Carlos III.  
Sinesio Delgado, 10. 28029 Madrid. España.  
E-mail: lsanchez.hciiii@salud.madrid.org

individuals to obtain reasonably effective treatment in the least amount of time, allocating resources so that treatment reaches the population en masse. In other words, efficiency should take precedence over effectiveness. At present no one questions the efficiency of control of tobacco use and dependence, which is even more efficient than similar measures such as control of hypercholesterolemia or hypertension. However, in the case of tobacco use and dependence, unlike other epidemics, the efficacy of intervention is even higher than that of prevention. In fact, de Peto<sup>17</sup> reports that although prevention is important, it would only reduce by 3.8% the 2050 mortality of the adolescent population who began smoking, whereas if half the smokers were to quit, mortality would be reduced 17-fold more, by 65.7%. Treatment is therefore the fastest way in the short and medium terms to reduce mortality due to tobacco use and dependence, underlining the advisability of increasing smoking cessation aids, both in number and type.

Current technology is capable of providing clinical help services for smokers in such a way that coverage and accessibility could be almost unlimited. All that is needed is the effort to adapt face to face intervention procedures to the technological medium of choice, as has already been done with self-help methods. On the Internet, clearly an ideal medium for putting such an approach into practice, there are already numerous sites devoted to smoking cessation. At this writing, the Google search engine will produce 54 700 000 hits for the phrase "stop smoking" and 16 500 000 for "smoking cessation." That does not mean that all the sites are devoted to treatment or that the scientific level of all the content is optimal,<sup>18</sup> but it clearly reveals public interest in the topic and the space devoted to it on the Internet, whose growing impact on society is difficult to estimate due to the pace of its evolution. However, although the number of smokers reached through the Internet is great, it is not the only feature that makes this medium a useful resource. The Internet offers access and communication services to a portion of the population that probably use it to manage a large part of their lives for the convenience it represents, or because mobility is an issue, or because they want to save time. The fact is that the marked increase in the number of Internet users indicates that this infrastructure could be an efficient way to treat smokers who are perhaps being excluded from other modalities of treatment.

As might be suspected, all types of content are found on the many web sites listed as hits for "stop smoking," yet 2 types of help service can be distinguished: sites offering self-help material and those offering intervention that is more personalized and adapted to the smoker. The self-help sites replace the conventional leaflet with superior graphics systems that reproduce animations, facilitate updates and interaction, and offer many other features that enhance their ability to attract smokers' attention—all of which would be expected to further the aims of the material. The second, more personalized type of web site falls into the category we refer to as a "treatment unit." Bock et al<sup>19</sup> are more precise in their analysis: in a group of 202 web sites they found that

77% provided no direct intervention via the Internet and of the 46 that did, 80% covered only some of the items recommended by clinical guidelines for smoking cessation treatment. Interestingly, these authors found that the less complete web sites made better use of graphics to enhance interaction and user friendliness, as if sites that lacked technical capacity for creating intervention content tried to compensate with visual impact.

A rather obvious, widespread phenomenon is occurring among web sites offering proactive help for smoking cessation: they attract a massive number of subjects who begin using the site, but only a small number respond to follow-up during the first days following the date set to quit smoking, in other words, the intervention phase. Thus, only 4237 (35%) of 11 969 subjects who responded to the first interview continued with the follow-up sessions in a study by Etter.<sup>20</sup> In our experience, in the first 3 months our department's web site ([vidasintabaco.com](http://vidasintabaco.com)) has been functioning, 18 124 people registered to quit smoking and 5476 (30.2%) made contact for follow-up at 24 hours after quitting and have continued for 3 months. Even in smoking cessation treatment centers that use a conventional face-to-face method, the number of inquirers is larger than the number who continue with treatment. Many smokers make contact looking for a method that will enable them to quit smoking effortlessly and when they find that the method fails to meet their almost magical expectations, they drop out. That group is large on the Internet, with its greater accessibility, but that should not be considered a negative aspect of the online approach since the special features of visual communication in this system might motivate some to make further progress in changing their smoking behavior. The results would be impossible to know but would surely be positive in furthering the objectives of prevention. The magnitude of the Internet's influence, with all its possibilities, is perhaps greater than that exercised by the mere fact of going to a health care center.

Another advantage of the Internet is the possibility of setting up discussion forums. In principle, these forums could be used for group psychotherapy, thus justifying their inclusion as a help option. However, a moderator would be required not only to monitor the incorrect comments that always come up in group therapy and only need to be redirected, but also to exclude comments that are destructive so that the system can work. Owing to the anonymous nature of participation in Internet debates, the method could ultimately be sabotaged by destructive comments, even though they might be vented to release tension—a phenomenon that in other spheres of life would be referred to as hooliganism. At any rate, it seems that participation in Internet forums increases the rate of abstinence at 3 months' follow-up but not at 6 months,<sup>21</sup> therefore apparently providing no advantage.

It has been argued against online intervention that its value has not yet been demonstrated by a sufficient number of controlled trials. That is understandable, however, since such intervention is a recent phenomenon

and establishing the control treatment for comparison would be difficult. Criticism is also directed at the impossibility of biochemical verification of abstinence since, according to the guidelines of the Society for Research on Nicotine and Tobacco (SRNT), the decision to provide such verification depends on the characteristics of the demand, the type of study, and the type of population, but is not thought necessary for large-scale population-based interventions. The SRNT considers that even if the absence of biochemical verification of abstinence may exaggerate the abstinence rate, the size of the increase would be small and not quantifiable.<sup>22</sup> At any rate, it should be kept in mind that the purpose of this type of intervention is not to carry out controlled studies but to treat the population en masse, as in health education campaigns. The objective is to provide a resource of user-friendly smoking cessation aids on a massive scale for people who are unlikely to use other resources. In our experience with *vidasintabaco.com*, the population that have used the site and continued with follow-up are characterized by 2 statistically significant traits: they are younger and predominantly male, suggesting that through the Internet we may be reaching sectors of society that would not otherwise use health care resources.<sup>23</sup> This single piece of information alone justifies development and promotion of online intervention. But there are additional reasons: after the first 3 months' existence of our web site, *vidasintabaco.com*, the first evaluation showed a rate of abstinence of 18.9% of the registrants mentioned above. This rate and these results would mean that in 3 months of online treatment the number of people who quit smoking could be double that of the smokers who in 1 year sought conventional treatment.

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