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EFFECTIVENESS OF DEADDICTION METHODS OF SMOKING ADOPTED IN VARIOUS DEADDICTION CENTRES OF BANGALORE CITY.

Dental Science

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ABSTRACT

Aim – The aim of the present study was to explore the different methods in the deaddiction of smoking practised in various deaddiction centres in Bangalore, as well as to assess the effectiveness of each method

Methodology- A retrospective cohort study was conducted among the chronic smokers who visited any of the 5 deaddiction centres in Bangalore during the past 1 year. 50 chronic smokers are selected by randomization and the data on the subjects was obtained from the records of the deaddiction centres. The percentage of each method was calculated for each method of deaddiction to determine the most effective method.

Results - The various techniques adopted for deaddiction of smoking were Behavioural Counselling, Nicotine Replacement Therapy, Medications, Combination of behavioural counselling and NRT, and Combination of NRT and Drugs. Among these, subjectively and objectively ,Nicotine Replacement Therapy & medication & combinations of methods where most effective methods.

Conclusion- Though all the techniques contributed to deaddiction, a combination of all techniques could also have produced significant results in different individuals.

KEYWORDS

Deaddiction Methods, Smoking, Deaddiction Centres, Bangalore City

INTRODUCTION

Health is a collaborative effort. Optimal health is an outcome of host factors, environmental factors, economic factors, social factors and educational factors- all of which come together to create sound mental and physical wellbeing. In the current scenario, one of the greatest threats to optimal health and wellbeing is tobacco and its products.

Tobacco use is significantly related to many oral disease manifestation like extrinsic staining of teeth, halitosis, gums and periodontal diseases, oral pre malignant disorders, and oral cancers. In addition to these oral health related issues they have a significant cardiovascular and respiratory impact due to common risk factors.[1]

The global adult tobacco survey- II conducted in 2016-17 showed that in India, 10.7% of all adults smoke tobacco while 21.4% of adults use smokeless tobacco[3]. Each year tobacco use kills about one million Indians, Smoking and exposure to second hand smoke kill about 926,000 people each year and smokeless tobacco kills an additional 200,000 people in India each year. If current trends continue tobacco will account for 13% of all deaths by 2020. Combating this threat includes collaborative efforts. Strategies that look at educating the public on the ill effects of tobacco, introducing and enforcing legislation that targets the production and sale of tobacco products and implementing strategies through national health programs can bring about positive changes.

The WHO Framework Convention on Tobacco Control (FCTC) recommends comprehensive policies for tobacco control, including cessation or treatment of tobacco dependence. Offer to help quit tobacco use is one of the six strategies for tobacco control advocated by WHO under MPOWER and technical guidelines for tobacco cessation have also been developed for different levels of health care providers. However, despite the enormous health burden resulting from tobacco use, there were no organized tobacco cessation services in India until 2001. In view of this, World Health Organization initiated Tobacco Cessation Clinics project in developing countries including India. These clinics started functioning in 13 centers across India on the 31st of May, 2002 on the World No Tobacco Day.

Tobacco cessation is defined as where health care professionals/ counsellors provide tobacco cessation therapy to help patients in their attempts to quit the habit. The therapy can involve non-pharmacological methods (individual or group counselling) and may include the dispensing of Pharmacological methods (pharmacological aids).

Tobacco users come in contact with the health care system more often than the non-users. Health care professionals are considered to be the source of credible health information and their advice is well received by tobacco users often because of the credibility and non-judgmental nature. It was demonstrated that minimal interventions by the health care professional increases overall tobacco abstinence rates[4], even the dental health care provider's role in tobacco cessation in India is neither extensively documented nor fully utilized on a larger platform.[2]

Given the high global morbidity and mortality of tobacco usage in India, the need for this study would be to find the most effective methods adopted for smoking cessation and to explore the different methods in the deaddiction of smoking adopted in various deaddiction centers and to assess the effectiveness of each deaddiction methods in Bangalore city.

METHODOLOGY

This study was based on the existing data and which was done on the year 2019 in order to determine the successful addiction treatment and common methods of addiction treatment used in patients visited 5 Deaddiction centers or Rehabilitation Centers in Bangalore city. The method of collection of samples was done using multistage sampling. Cluster random sampling was done to select the rehabilitation centers and from each zone, one institution was randomly selected and 50 chronic smokers in turn were taken, giving a final sample of 250 with the inclusion criteria subjects consuming tobacco smoke products for the past 1 year and had given consent for follow ups wherein the record of smokeless tobacco users and subjects who will be using the smokeless and smoke products of tobacco together and subjects who didn't come for further follow ups are excluded.

Data of 50 chronic smokers assessed using the Fagerstorm[13] scale has been selected and their methods of deaddiction has be obtained from the records maintained in deaddiction centers.

Deaddiction methods like pharmacological, non-pharmacological and combination of both has be considered and finally methods from previous records will be assessed and mean percentages of each method will be calculated to determine the most effective one.

STATISTICALANALYSIS

Data will be processed and analysed using Statistical Package for Social Sciences [SPSS] for Windows Version 22.0 Released 2013. Armonk, NY: IBM Corp. Mann Whitney U test has been done to find the pairwise comparison of the efficiency of different intervention methods measured using Fagerstorm Scale and Carbon monoxide analyser.

RESULTS

From the records of severe smokers which had undergone the deaddiction, the methods which was practiced in the deaddiction centers and rehabilitation centers are behavior counselling(all types of counselling which was done had taken as behavior counselling), nicotine replacement therapy(the forms of NRT like patches, gums had be used and which was taken as NRT), medications(Wellbutrin SR and Zyban was the medications which has been used) and combinations of behavior counselling and NRT, combination of medications and NRT which has been given for 3 months with every weekend follow-up.

Table 1 explains about pairwise comparison of the efficiency of different intervention methods measured using Fagerstorm Scale and in the group comparison behavior counselling and all other methods; BC has the mean rank of 81.40 and for the NRT it is 90.10, for Behaviour counselling and medications; BC has the mean rank of 40.63 and medications has the mean rank of 51.02, for behavior counselling and combinations of behavior counselling and NRT; BC has the mean rank of 38.67 and combination of BC&NRT has the mean rank of 46.40, for behavior counselling and combination of combination of medication & NRT; BC has the mean rank of 29.28 and combination of medication &NRT has the mean rank of 31.42, in the group comparison of NRT & all other methods; NRT has the mean rank of 87.92 and medication has the mean rank of 61.93, and in the comparison of NRT and combination of behavior counselling and NRT, NRT has the mean rank of 75.17 and combination of medication BC and NRT has the mean rank of 81.90, in case of NRT and combination of medication and NRT: NRT has the mean rank of 64.53 and combinations of medications and NRT has the mean rank of 63.92, in comparison of medications with other methods; in case of medications with the combinations of BC & NRT, medication has the mean rank of 29.43 and combination of BC & NRT has the mean rank of 43.60,in comparison of medications and combination of medication &NRT, medications has the mean rank of 22.70 and combination of medications & NRT has the mean rank of 28.83, in comparison of combinations of BC & NRT and combination of medication and NRT; combination of BC & NRT has the mean rank of 18.75 and combination of medication & NRT has the mean rank of 17.25. With the subjective tool fagerstorm scale the methods which are showing significant difference in between group are BC & medications, BC& combination of BC & NRT, NRT & medications, medications and combination of BC & NRT.(Table – 1)

Methods	Mean Rank	Mann Whitney U value	P value
BC	81.40	2855.000	0.145
NRT	**90.10**		
BC	40.63	805.000	**0.029***
Medications	**51.02**		
BC	38.67	633.000	**.048***
Combination of BC & NRT	**46.40**		
BC	29.28	144.500	.775
Combination of medication & NRT	31.42		
NRT	**87.92**	1657.000	**.000***
Medication	61.93		
NRT	75.17	1668.000	.250
Combination of BC & NRT	81.90		
NRT	64.53	362.500	.955
Combination of medication and NRT	63.92		
Medication	29.43	357.000	**.000***
Combination of BC & NRT	**43.60**		
Medications	22.70	88.000	.313
Combination of medication & NRT	28.83		
Combinations of BC & NRT	18.75	82.500	.756
Combination of medication & NRT	17.25		

Table 1: Pairwise comparison of the efficiency of different intervention methods measured using Fagerstorm Scale: Mann Whitney U Test

BC- Behaviour counselling, NRT – Nicotine Replacement therapy

Table 2 explains about pairwise comparison of the efficiency of different intervention methods measured using Carbon monoxide analyser and in the group comparison behavior counselling and all other methods; BC has the mean rank of 86.03 and for the NRT it is 90.95, for Behaviour counselling and medications; BC has the mean rank of 43.64 and medications has the mean rank of 48.70, for behavior counselling and combinations of behavior counselling and NRT; BC has the mean rank of 38.67 and combination of BC&NRT has the mean rank of 46.40, for behavior counselling and combination of combination of medication & NRT; BC has the mean rank of 3.50 and combination of medication &NRT has the mean rank of 32.50, in the group comparison of NRT & all other methods; NRT has the mean rank of 84.11 and medication has the mean rank of 73.54, and in the comparison of NRT and combination of behavior counselling and NRT, NRT has the mean rank of 78.41 and combination of medication BC and NRT has the mean rank of 68.72, in case of NRT and combination of medication and NRT: NRT has the mean rank of 28.50 and combinations of medications and NRT has the mean rank of 32.50, in comparison of medications with other methods; in case of medications with the combinations of BC & NRT, medication has the mean rank of 35.51 and combination of BC & NRT has the mean rank of 35.48,in comparison of medications and combination of medication &NRT, medications has the mean rank of 26.50 and combination of medications & NRT has the mean rank of 32.50, in comparison of combinations of BC & NRT and combination of medication and NRT; combination of BC & NRT has the mean rank of 21.50 and combination of medication & NRT has the mean rank of 32.50. With the objective tool carbon monoxide analyser the methods which are showing significant difference in between group are BC & Combination of medication & NRT, NRT & combination of medications & NRT, medications and combination of medications and NRT, combination of BC & NRT and combinations of medications & NRT. (Table -2)

Methods	Mean Rank	Mann Whitney U value	P value
BC	86.03	2992.50	.545
NRT	**90.95**		
BC	43.64	925.50	.360
Medications	48.70		
BC	38.67	670.00	.282
Combination of BC & NRT	46.40		
BC	3.50	.000	**.000***
Combination of medication & NRT	**32.50**		
NRT	84.11	2121.50	.196
Medication	73.54		
NRT	78.41	1596.50	.253
Combination of BC & NRT	68.72		
NRT	28.50	.000	**.000***
Combination of medication and NRT	**32.50**		
Medication	35.51	599.50	.995
Combination of BC & NRT	35.48		
Medications	26.50	.000	**.000***
Combination of medication & NRT	**32.50**		
Combinations of BC & NRT	21.50	.000	**.000***
Combination of medication & NRT	**32.50**		

Table 2- Pairwise comparison of the efficiency of different intervention methods measured using Carbon Monoxide Analyzer: Mann Whitney U Test

DISCUSSION

The use of Behavior counselling and combination of medication & NRT during attempts to quit smoking was associated with the success, no such association was seen on individual methods behavior counselling and Nicotine Replacement Therapy objectively, which was similar to that from a cross sectional study which was done in England among 10 335 adults who smoked within the previous 12 months.[5]

In our study medications individually is not showing significant results objectively, but showing significance subjectively with the help of fagerstrom scale. In a meta analyses of randomized placebo-controlled trials they are projecting adjusted OR of 1.61 in users of prescription medication combined with brief advice, compared with non-users of treatment.[6,7]

We cannot rule out an effect of unmeasured confounding factors, but it should be noted that this ought to have undermined the observed effects of behavioural support and medication on prescription, yet we were able to detect these effects.

If over-the-counter NRT has become ineffective both subjectively and objectively, this represents a considerable financial and opportunity cost for smokers, and steps need to be taken urgently to address this.

In most cross-sectional surveys, the most commonly used measure of cigarette dependence uses number of cigarettes smoked and time to first cigarette of the day could not be recorded, but in our study the first cigarette after waking up and the number of cigarettes per day is recorded subjectively with the help of fagerstrom scale.

Our findings with regard to medication are consistent with many prospective real-world studies.[8]

Our study is limited by the fact that risk of confounding further than any previous study by adjusting for cigarette dependence, age, sex, social grade and previous quit attempts. However, residual confounding may have occurred, as not all factors associated with self-selection of treatment were measured in our survey, such as comorbidity or psychological distress. Motivation to quit may also be associated positively with both use of treatment and success. However, our studies have generally not found an association between motivation to quit and success of quit attempts.

The value of ratings of strength of urges to smoke as a measure of dependence in cross-sectional research would have been reduced if different methods of stopping had been found to be linked differentially to lower or higher levels of urges in abstinent smokers. For example, a method of stopping that led to a relatively higher reduction in urges might underestimate the effectiveness of that method by making it seem that those using it were less dependent. However, we did not find evidence in this data set that urges to smoke in smokers versus quitters differed as a function of method. It is very unlikely, therefore, that our dependence measure led to substantial over- or underestimation of the effectiveness of the different methods.

Reliance on recall is inevitable in population studies of this kind, and even in prospective studies it is an issue unless one stimulates quit attempts. In our study, with the quit attempt having occurred up to 12 months ago, the scope for recall bias is significant[9,10]. This would tend to reduce the ability to detect an effect and does not undermine the finding of a significant benefit of behavioural support plus medication. The effect sizes for medication with specialist behavioural support or with brief advice were lower in smokers who started their quit attempt more than 6 months ago than in smokers who started their quit attempt less than 6 ago. This finding may be a result of differential recall bias. We found some evidence in our study that the use of prescription medication during a quit attempt, especially when combined with specialized behavioural support, was recalled better than no use of treatment during a quit attempt (we did not find evidence of recall bias in usage of NRT bought over the counter). Our finding may, however, also be a result of reduced long-term effectiveness of prescription medication when prescribed with brief advice or behaviour counselling only.

CONCLUSIONS AND RECOMMENDATIONS

Health-care professionals should know that smokers who seek treatment differ from smokers who try to quit unaided, in that they have more difficulties quitting. In those smokers, a combination of evidence-based medication combined with expert behavioural support is recommended. More research is needed urgently on real-world effectiveness of nicotine replacement therapy bought over the counter.

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