



RESEARCH ARTICLE

ASSESSMENT OF SALE OF NICOTINE REPLACEMENT THERAPY AT PAAN AND CHEMIST SHOPS IN NOIDA CITY- A CROSS SECTIONAL STUDY TO PROMOTE ITS SALE THROUGH SOCIAL MARKETING

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ARTICLE INFO

Article History:

Received 30th June, 2017

Received in revised form

27th July, 2017

Accepted 29th August, 2017

Published online 29th September, 2017

Key words:

Nicotine Replacement Therapy,
Social Marketing.

ABSTRACT

Objectives: To understand the trend of sale of Nicotine Replacement Therapy (NRT) at various Paan (betel quid) and Chemist shops across Noida city and devise a model to promote its social marketing. **Methods:** A pre tested, pre validated questionnaire was administered to 136 Paan and 136 Chemist shopkeepers. Questions like the availability of NRT, most common forms sold (chewing gums, patches, E-cigarettes etc.), most popular brand at both the settings, whether or not patients buy the product with prescriptions and estimated monthly sale were asked. Descriptive statistical tests were employed using SPSS version 20.

Result: As a result, it was found that NRT was available at 58.8% Paan shops and 85% Chemist shops. Chewing gums and e-cigarettes were available at 58.8% and 4.2% Paan shops respectively. At Chemist shops, 70.6% chewing gums, 25% patches, 3.7 % E-cigarettes and at 0.7% other products like nicotine drops etc. were sold. At Chemists the most common brands were Nicotex (44%) and Nicorette (47%) but at Paan shops it was Kwiknic (100%). Hardly any consumer bought NRT with prescription.

Conclusion: The sale of one particular brand of NRT at Paan shops can be understood as a specific marketing strategy by a particular company which can aid those who want to quit smoking. However, it can also be used to accentuate the level of tobacco addiction by the youth.

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Citation: Dr. Sumedha Kushwaha, Dr. Shitanshu malhotra, Dr. Khundrakpam Eremla, Dr. Pallavi Singh, Dr. Khundrakpam Nganba and Dr. Shahid M. Shaikh, 2017. "Assessment of sale of nicotine replacement therapy at paan and chemist shops in noida city- a cross sectional study to promote its sale through social marketing", *International Journal of Current Research*, 9, (09), 57164-57166.

INTRODUCTION

Tobacco usage in all forms worldwide, accounts for significantly associated morbidity and mortality. The deleterious effects of tobacco use has spared none without a bias of socio economic status, gender, nationality, cultural or ideological values (WHO, 2015). For all tobacco users, quitting has always been a herculean task due to a high relapse potential and the addictive nature of nicotine (Warner and Mackay, 2008). NRT is a known means for tobacco cessation (Tobacco dependence treatment guidelines, 2011). NRT has been described as a group of products delivering nicotine, licensed for the relief of withdrawal symptoms after smoking cessation (Nicotine Replacement Therapy for Smoking Cessation or Reduction, 2014).

These are over the counter drugs and can be sold legally without prescription. According to World Health Organization (WHO) Report on the Global Tobacco Epidemic, 2013 for India, NRT (e.g., patch, gum, lozenge, spray or inhaler) can be legally sold from any general store without prescription. However, these products are not included in the list of essential drugs and it has also been clearly stated that national/federal health insurance does not cover the cost of this product. In contrast to this, medicines like Bupropion (e.g., Zyban, Wellbutrin) and Varenicline can be legally sold from drug stores with a Medical Prescription (World Health Organization, 2013). NRT are well known for their cessation properties but there are a number of adverse effects associated with their use (Neill et al., 2001). The two settings where NRT is most commonly sold in India are at Chemists and pavement shops like Paan (betel quid) shops (Thawani et al., 2003). Scanty

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literature is present in India to assess the sale of NRT at various settings in market. This study was thus conducted with the aim to assess the trend of sale of NRT at Paan and Chemist shops and to devise an integrated community based intervention to promote its social marketing.

MATERIALS AND METHODS

The present study was carried out in the Noida city, District Gautam Budh Nagar, Uttar Pradesh in India for 6 months (From March – August, 2014). Linear snowball sampling was done and 136 Paan shopkeepers and 136 Chemists were included in the study. Those who were present on the day of the study and willing to participate were included in the study. However, those who were not willing to participate or did not give consent were excluded from the study. No effort was made to contact those, whose shops were closed on the day of the study. Informed consent was taken from all participants. Ethical clearance was taken from Institutional Review Board.

In order to meet the aim and objectives of the study, a questionnaire was developed after a focus group discussion. The validity of the questionnaire was checked. Intra Examiner reliability was checked (Cronbach's $\alpha=0.8$). A pilot test was done on 40 shopkeepers. The pre- tested and pre- validated questionnaire was then administered with questions to determine the availability of NRT at their shops, the most prevalent form of NRT sold at both settings, the most common brands sold, to check whether consumers buy NRT with prescriptions and whether consumers are well informed or are taking NRT with any other tobacco product. Data was computed and tabulated in Microsoft Excel Worksheet and statistical analysis was performed using SPSS version 20 (Chicago, USA).

Table 1. Depicting the pattern of sale of NRT at Paan and Chemist shops

Setting	Paan Shops n(%)	Chemist Shops n(%)
Sale of nrt		
Yes	80(58.8%)	116(85.3%)
No	56(41.2%)	20(14.7%)
Brand of nrt available		
Nicotex	0(0%)	60(44.1%)
Nicorette	0(0%)	64(47%)
Kwic Nic	80(100%)	5(3.7%)
Any Other	0(0%)	7(5.2%)
FORM OF NRT		
Chewing Gum	76(95%)	96(70.6%)
Patch	0(0%)	34(25%)
E-cigarette	4(5%)	5(3.7%)
Any Other	0(0%)	1(0.7%)
Estimated monthly sale of NRT		
Rs.100-Rs.500	80(58.8%)	5(3.6%)
Rs.500-Rs.1000	14(10.2%)	66(48.5%)
Rs.1000 or more	2(1.4%)	50(36.7%)
Don't Know	40(29.4%)	15(11%)
Sale of NRT with prescription		
Yes	0%(0)	10 (7.3%)
No	80 (58.8%)	106 (77.9%)
Don't Know	56 (41.2%)	20 (14.7%)
Trend of sale of NRT with tobacco product		
Yes	44(32.5%)	0 (0%)
No	28(20.5%)	136 (100%)
Don't Know	64(47%)	0 (0%)

RESULTS AND DISCUSSION

Through this study we found that NRT was available at 58.8% Paan Shops and 85.3% Chemist shops (Table 1). V Thawani et al (2003) have reported that Nicotine Replacement Therapy

(NRT) is sold at pavement shops. Since, NRT is bought without prescription, under 18 sale cannot be monitored and controlled (Thawani et al., 2003). The estimated monthly sale of NRT was between Rs.100- Rs.500 at 58.8% Paan and 3.6% Chemist shops, between Rs.500- Rs. 1000 at 10.2% Paan and 48.5% Chemist shops, more than Rs. 1000 at 1.4% Paan and 36.7% Chemist shops. 29.4% Paan and 11% Chemist shopkeepers could not estimate their sale of NRT (Table 1). The Indian Market Research has shown that NRT smoking cessation aids were only present since 2010 and constituted to be only a small category till 2013 with sales worth Rs. 170 million. However, the sales growth stabilised in 2013, witnessing value growth of 9% (NRT, 2015). In this study, it was seen that chewing gums were the most common form of NRT sold at both Chemist (70.6%) and Paan shops (95%), E-cigarettes were available at 5% Paan shops and 3.7% Chemist shops, Patches (25%) or other forms like lozengens (0.7%) were available only at Chemists (Table 1).

Product----- Customer Solution -A positive behaviour of smoking cessation should be marketed rather than NRT. -Make the product available in different sizes, packages and doses to attract customers -Enhance the marketing of positive health benefits of smoking cessation.	Place----- Convenience -Paan shops are "life path points" for people but they do not provide any information regarding the correct method of usage and dosage. -Manufacturing Companies can tie up with hospitals and tobacco cessation centres for camps at Community Centres where medication and counselling both are provided.
Price----- Customer Cost -The cost of NRT should be equal to or less than the price of cigarette or a tobacco pouch. -Emphasize on the monetary benefits of lesser health problems due to tobacco cessation.	Promotion----- Communication -Advertisement should motivate individual and group participation. -Along with the product promotion, Quit Help lines should also be started. -Gift Vouchers or Hampers should be given as rewards to increase competition among companies.

Figure 1. A diagram to depict a correspondence of 4P's and 4C's of Social Marketing

It has been seen that chewing gums and lozenges alternatively called "NRT Confectionery" have become popular with the young aged people despite their bitter taste as they do not produce any smell or smoke (Thawani et al., 2003). Thorndike A.N et al (2002) reported that until 1996, NRT products were sold only with prescription. They inferred from their study that the rate of successful quitting increased from 17.1% pre-OTC status to 24.7% post-OTC status, but this increase was not statistically significant (Thorndike et al., 2002). Interestingly in our study we found that the brand KwikNic (100%) was available only at Paan shops. At Chemists, mostly Nicotex (44.1%) and Nicorette (47%) were available whereas Kwik Nic (3.7%) was sparsely available (Table 1). It was also seen that hardly any consumer bought NRT with prescription at Chemist Shops (7.3%) (Table 1). The Indian Market Research shows that nicotine gum, patches, and lozenges can be bought over the counter (OTC) without a prescription. However, nicotine nasal spray and inhalers are available only with a doctor's prescription (8). Harrington P, Shepherd M (2002) in their study have questioned the status of NRT to be an OTC to be controversial on the basis that nicotine is an addictive substance and its relation of access to minors for inappropriate purposes and posed concern regarding the efficacy of NRT that it was given an OTC status (Harrington and Shepherd, 2002). With regards to Physician's advice – the American Cancer Society has directed tobacco users who are pregnant or with heart disease to consult a doctor before using any OTC NRT. Further, the package directions or physician's guidance for

using nicotine replacement therapy (NRT) have been highlighted (<http://www.cancer.org/acs/groups/cid/documents/webcontent/acspc-035551-pdf.pdf>). Foll B, George T (2007) state that directions of use for all nicotine replacement products taken by mouth, acidic drinks such as coffee and juice should be avoided for 15 minutes before product use, since they can reduce nicotine absorption. Such Directions cannot be provided at Paan Shops (Foll and George, 2007). The side effects mentioned on the product packaging include anxiety, irritability, restlessness, mood changes, nervousness, drowsiness, trouble in concentrating, increased appetite, weight gain, headache, muscular pain, constipation and fatigue, irritation or injury to mouth and teeth damage. It is also known to have number of drugs interactions (Steinberg et al., 2008).

33% Paan shop owners agreed to have observed users buying tobacco products with NRT, 20% denied and 47% replied "Don't Know" (Table 1). Jarvis M et al, reported substances are well known for their properties like high abuse potential, highly addictive nature, carcinogenicity (Jarvis, 1997). Steinberg MB et al have stated that rather than considering cessation medications as a short-term aid in smoking cessation, they should be covered in the same manner as treatment of other long-term illnesses and conditions, such as asthma, depression and diabetes, attributing it to the chronic relapsing nature of tobacco dependence (Steinberg et al., 2008). Moolchan et al. (2005) have also concluded in their research that NRT can be used safely by adolescents, although such use is still off label. Also use of NRT during pregnancy is still controversial due to harmful effects of nicotine on the foetus. It has been advised that NRT should be only given after psychological counselling is ineffective (Moolchan et al., 2005).

Conclusion

NRT is being sold at most Chemist and some Paan shops in Noida city, Uttar Pradesh, India. The sale of a specific brand of NRT at Paan Shops can be understood as a specific marketing strategy by a company. However, due to a high abuse potential of this product, this can be abused by youngsters along with smoking and smokeless tobacco to enhance their addiction. These pavement shops do not provide an insight into the correct method of usage, indications and contraindications of the same.

Recommendations

Kotler et al, 2006 have defined social marketing as "a process that applies marketing principles and techniques to create, communicate, and deliver value in order to influence target audience behaviors that benefit society (public health, safety, the environment, and communities) as well as the target audience." (Kotler and Lee, 2008) It is recommended through this study that the sale of NRT should not only be a business strategy for companies but should be taken as a social initiative to control or prevent the use of tobacco in any form. The 4P's (Product, Place, Price and Promotion) of social marketing of NRT should correspond with the 4C's (Customer solution, Convenience, Customer cost and Communication) of customers. Along with these, features like social support (formation of ex-smokers group), incentives (Free Chewing gum on sale of 10 Patches) and Motivation (an Ex-Smoker Role Model for advertisement, Health benefits after quitting) can also be incorporated for the promotion and sale of NRT. The Paan shop owners can be intricately involved in community based program by companies providing them with

a sheet to count the number of people buying NRT, which will help create a database of the recent quitters. Also, by the help of family involvement and enhancement of social support system relapse can be prevented. (Figure1)

REFERENCES

- WHO global report on trends in prevalence of **tobacco** smoking **2015**. http://apps.who.int/iris/bitstream/10665/156262/1/9789241564922_eng.pdf (Accessed on 2.10.2015)
- Warner, K.E. and Mackay, J.L. 2008. Smoking cessation treatment in a public-health context. *Lancet.*; 371, 1976–1978.
- Tobacco dependence treatment guidelines. National tobacco control programme Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India, New Delhi, 2011 <http://www.treatobacco.net/de/uploads/documents/Treatment%20Guidelines/India%20treatment%20guidelines%20in%20English%202011.pdf> (Accessed on 4.12.2014)
- Nicotine Replacement Therapy for Smoking Cessation or Reduction: A Review of the Clinical Evidence. Ottawa (ON): Canadian Agency for Drugs and Technologies in Health; 2014. Available from <http://www.ncbi.nlm.nih.gov/books/NBK195715/> (Accessed on 7.1.2015)
- World Health Organization- Report on the Global Tobacco Epidemic: Enforcing bans on tobacco advertising, promotion and sponsorship. 2013. http://apps.who.int/iris/bitstream/10665/85380/1/9789241505871_eng.pdf (Accessed on 10.2.2015)
- Neill, A.M., Foulds, J. and Bates, C. 2001. Regulation of Nicotine Replacement Therapies (NRT): A Critique of current practice. *Addiction.* 96; 1757-1768
- Thawani, V., Pande, S. and Turankar, A. 2003. Nicotine Replacement Drug being Sold On Pavement Shops. *Indian Journal Of Pharmacology*, 35, 402-403
- NRT Smoking Cessation Aids in India <http://www.researchandmarkets.com/reports/354740/> (Accessed on 3.3.2015)
- Thorndike et al. 2002. Effect on Smoking Cessation of Switching Nicotine Replacement Therapy to Over-the-Counter Status *American Journal of Public Health*, 92(3)
- Harrington, P. and Shepherd, M. 2002. Analysis of the Movement of Prescription Drugs to Over-the-Counter Status. *J Managed Care Pharm.* 8(6), 499-508
- <http://www.cancer.org/acs/groups/cid/documents/webcontent/acspc-035551-pdf.pdf>
- Foll, B. and George ,T. 2007. Treatment of tobacco dependence: integrating recent progress into practice. *CMAJ*, 177 (11), 1373-80
- Steinberg, M.B., Schmelzer, A.C., Richardson, D.L. and Foulds, J. 2008. The case for treating tobacco dependence as a chronic disease. *Ann Intern Med.* 148(7), 554-6.
- Jarvis, M. 1997. Patterns and predictors of smoking cessation in the general population. In Bolliger, C.T. and Fagerstrom, K.O. (Eds), 1997. *The Tobacco Epidemic. Progress In Respiratory Research*, 28, 151-164
- Moolchan, E.T., Robinson, M.L., Ernst, M., et al. 2005. Safety and efficacy of the nicotine patch and gum for the treatment of adolescent tobacco addiction. *Pediatrics* . 115, e407-14
- Kotler, P. & Lee, N.R. 2008. *Social Marketing: Influencing behaviours for good* (3rd ed) Thousand Oaks, CA: Sage Publications.