

Use of Piggybacking Strategy Successfully in a Randomized Controlled Trial on Food Safety Training of Street Food Vendors - An Example from School of Public Health, Post Graduate Institute of Medical Education & Research, Chandigarh, India

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Abstract

Introduction: Piggybacking approach has been extensively used in almost every known field from physical to virtual. In our day today life, we see it use in social networking sites such as Facebook, yahoo mail where multiple applications are carried over/piggybacked on the existing basic connecting platform. In India, this strategy is commonly used in Malaria control programme by distribution of Insecticide Treated Bed Nets (ITNs) through antenatal care or during immunization campaigns for measles and polio. The advantage of piggy backing approach is multi-faceted in terms of resources, time and effort.

Materials and Methods: We utilised this opportunity, to piggyback anti-tobacco campaign using health education approaches on concurrent Randomized Controlled Trial (RCT) for assessing the effectiveness of food safety training interventions among street food vendors. Data entry and analysis was done using SPSS version 22.0 and descriptive statistics was used to define the numerical data.

Results: So far data of 40 street food vendors (intervention arm=20 and control arm=20) has been analysed. In the intervention arm 11 (n=20) street food vendors were using tobacco in any form compared to 13 (n=20) in the control group at baseline. None of vendors in both the arm had any knowledge regarding FSSAI Act and COTPA at the baseline. 45% (n=9) in the intervention arm were washing hand after consuming any of the tobacco products at first follow up compared to 10% (n=2) at baseline.

Conclusion: Piggybacking strategy can be used in public health programmes to augment one intervention over another to achieve favourable public health outcome.

Keywords: Anti-tobacco campaign, Food safety intervention, Piggy-backing, RCT

Introduction

Piggybacking approach has been extensively used in almost

every known field from physical to virtual. Facebook, a popular social networking site not only connects people

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across the globe but also helps them share their lives and experiences through status updates, videos, pictures, links, stories, messages and now video calling too. Advertisement is run on side strip of main screen and multiple applications are carried over/ piggybacked on the existing basic connecting platform. The forthcoming years may witness some new innovative additions too.

Marketing has been something more than just advertising and communication but a progressive instrument of amplifying the desired idea in many people's mind. In marketing too, the abstract of piggybacking approach is quite palpable. During the festive season, many stores offer the deals of selling of a fully automatic washing machine with a thermos flask either free or at discounted price. Here, the traders are riding the sale of one product on another where neither they lose their profit nor the customer. Many cosmetic manufacturers too offer this similar principle marketing toothbrush with toothpaste, shampoo with hair conditioner, face cream with lotions and many more. The resultant harvest is stupendous from both the products. Many bidi (hand rolled cigarettes) selling industries were giving matchbox with their product to entice customers, although this is a prohibited advertising and marketing move under the law.

Even established eating joints, have not been left untouched by the concept of piggybacking. Pizza, canned juices, many combo packs etc. are offered with some other palatable product and sellers hawk their savoury from both sides. For example, cinema halls sell popcorn, nachos and French fries under the umbrella of "combo pack" and offer cold drink for free.

Basically, in piggybacking strategy, opportunity is utilised to carry out secondary task along with primary task without any additional cost. For an example people from Pakistan and Afghanistan visiting India also brought and sold dry fruits with them. When we move from Say City "A" to City "B" say for pilgrimage, we spend time and money on travel, if in addition we buy some stuff for business from City "B", this is also piggybacking.

Facets from Existing Practices

The approach has been successfully applied in the field of health and there is plethora of documented successful piggybacked campaigns. It will be apt here to mention about the success story of Cola Life campaign founded by Simon Berry.¹ He observed that no matter where he went from remote to remotest part of the world, he could always find a coca cola. However, what he couldn't find there, were over-the-counter medications that residents in those remote regions needed most. He came up with this idea in 1988 while working on the British Aid Program to piggyback Coca Cola's distribution channels to provide remote communities in third world countries with essential medication and water cleaning tablets.¹ Basically, ORS sachets with zinc and

water cleaning tablets were so designed that they could be kept in between bottles of crates of coca cola and they could be delivered to hospitals in the remote part without any difficulty and additional cost. This had a great impact in reducing the morbidity and mortality due to diarrhoeal diseases in African countries.

Piggy Backing Approach in India

In India, piggybacking strategy is commonly used in Malaria Control Programme by distribution of Insecticide Treated Bed Nets (ITNs) through antenatal care or immunization campaigns for measles and polio.² Women are interested regarding health of their babies during pregnancy and thereafter. Thus, opportunity has been aptly utilised to control malaria in this subpopulation without any additional logistic using the platform of RCH facility.

The mid-day meal scheme of the Ministry of Human Resource Development (Education) has been effectively utilized to provide education to children in rural India as a piggy-back to provision of healthy food to 120 million children in underprivileged sections of the society.³ This will not only ensure nutrition for healthy growth (physical and cognitive), but will also help in forming healthy food habits and education to underprivileged children. Further, this may help to counter the ill effects of obesity, and may decrease the upsurge trend of non-communicable diseases in long term.

National schemes like the 'Mahatma Gandhi National Rural Employment Guarantee Act' under the Ministry of Rural Development aims to enhance the livelihood status of people in rural areas. These can be utilized as a common platform to address the social determinants of rural health.^{3,4}

Others examples of this strategy are administration of Vitamin A drops during measles vaccination to reduce number of visits⁵, utilizing the services of Anganwadi workers for immunization apart from their other duties⁶, observation of Village Health Nutrition Days (VHND) on antenatal days at sub centers to teach mothers about nutrition⁷, HIV/AIDS screening of antenatal mothers⁸ etc.

Use of Piggy Backing Approach in Combating Tobacco Epidemic

Tobacco use is one of the major risk factors of Non-Communicable Diseases (NCDs). Thus multipronged 'tobacco control' approaches directed at individual level (such as preventing its use and availability of tobacco cessation services) and at the level of population (approaches to address production, trade, taxation, and implementation of tobacco control laws) can be piggybacked on ongoing National Program for Prevention and Control of Cancer, Diabetes, CVD and Stroke (NPCDCS) for reversing this epidemic.³

The advantage of piggy backing approach is multi-faceted

in terms of resources, time and effort. This approach can be integrated with the objective of public awareness/ mass media campaigns for awareness building and behaviour change of National Tobacco control Programme. Further, the IEC activities under this programme can be combined with food safety intervention IEC activities for street food vendor's microenvironment thereby creating a wide base for catchment of tobacco users.

Materials and Methods

How are we Utilizing Piggybacking in RCT?

The study population comprises of the street food vendors of Chandigarh. We utilised this opportunity, to piggyback anti-tobacco campaign on concurrent Randomised Controlled Trial for assessing the effectiveness of food safety training interventions among street food vendors. Anti-tobacco campaign was carried out using health education approach.

Design of Intervention Package

A booklet was designed in Hindi and it was purposely made pictorial for targeting street food vendors as they were mostly illiterate. The booklet covered topic about ill effects of tobacco and its use, advantage of quitting tobacco and its impact on the health of customers and user. Emphasis was also shown that how creating a tobacco free environment around street food cart can boost their business. Along with, short video clips were shown on ill effects of tobacco and posters was displayed on cart for increasing awareness of other vendors and their customers.

Delivery of Intervention Package

The package was administered only in intervention arm who were concurrently receiving food safety intervention. The control arm did not receive the intervention package.

Data Collection

Baseline data has been collected from vendors before randomization and after intervention data the first follow up data has been captured. At present the study is in progress.

Data Analysis

The data was entered into computer and coded to facilitate statistical analysis and it was examined for any duplication or missing value. The analysis was carried out by Statistical Package for the Social Sciences (SPSS) 22.0 version. The numerical data were analysed using descriptive statistics to describe the streets food vendors based on type of food they sell and on food safety related parameters in the intervention and control arm.

Results

Table 1 shows the distribution of 40 street food vendors whose data has been analysed (n=20 street food vendors in intervention arm and n=20 street food vendors in control arm).

In the intervention arm 11 (n=20) street food vendors

were using tobacco in any form compared to 13 (n=20) in the control group at baseline. At first follow-up one street food vendor had quit using tobacco in the intervention arm. None of vendors in both the arm had any knowledge regarding Food Safety and Standards Authority of India (FSSAI Act) and The Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 (COTPA Act) at the baseline. At first follow up 40% (n=8) of participants in the intervention arm could tell about the FSSAI act and COTPA compared to 5% (n=1) in the control arm (Table 2).

Table 2 shows impact of food safety related training among the respondents.

Table 1. The distribution of 40 street food vendors

Type of food sold	Number of respondents (Street food vendors)	
	Intervention arm (n=20)	Control arm (n=20)
Tea and Samosa	6	4
Fast food	3	5
Fruit Juice	3	3
Chole Kulche	4	5
Lunch	4	3
Total	20	20

Table 2. Impact of food safety related training among the respondents

Food Safety Related Parameters	Number of Respondents (Street food vendors)			
	Intervention arm (n=20)		Control arm (n=20)	
	Base-line	First follow up	Base-line	First follow up
Street food vendors consuming any form of tobacco products	11	10	13	13
Knowledge about FSSAI act and COTPA	0	8	0	1
Hand washing with soap after consuming any tobacco product	2	9	3	3
Display of poster/ signage for not using tobacco near their point of sale	0	6	0	0
Total	13	33	16	17

45% (n=9) in the intervention arm were washing hand after consuming any of the tobacco products at first follow up

compared to 10% (n=2) at baseline. No change in hand washing practice after consuming any of the tobacco products at baseline and first follow up was observed in the control arm. 30% (n=6) of the vendors were found to be displaying signage board against tobacco use at their point of sale in the intervention arm at first follow up (Figure 1).



Figure 1. Display of signage against tobacco use at the point of sale by street food vendor in the intervention arm

Discussion

In our study population the prevalence of tobacco use among street food vendors has been found to be 55% and 65% in the intervention arm and control arm respectively. Singh et al (2014), in their study on risk factors for oral diseases among workers with and without dental insurance in a national social security scheme in India reported high prevalence (65%) of tobacco use in both the groups.⁹ The results of their study are almost similar to our study.

None of the vendors had any knowledge about FSSAI and COTPA act in the intervention arm at the baseline. This could be because they are generally illiterate. After administration of intervention package, their knowledge about the both the act increased. This also lead to display of signage board against tobacco use at their work place. Thus providing health education against tobacco use may lead to decrease of prevalence of tobacco use among street food vendors and their clientele.

Conclusion

The preliminary results show positive outcome of using piggybacking strategy by combining two intervention together in the present concurrent randomized control trial for assessing the effectiveness of food safety training interventions among street food vendors. Thus, piggybacking could be an efficient management technique which makes judicious use of resources in terms of time, effort and money at one's disposal thereby achieving multiple health outcomes with limited assets. It can be used in public health programmes to augment one intervention over another to achieve favourable public health outcome.

Conflict of Interest: None

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