ORIGINAL ARTICLE

The Role of Compensatory Health Beliefs for Unhealthy Behaviors

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ABSTRACT In spite of various health behavior change programs, successful implementation has been found to be difficult. In the last decade, a focus has been given on motivational cues and cognitive strategies involved in healthy behavior change. People activate certain cognitive/emotional strategies to justify their indulgences without facing the guilt and losing focus on their aim. These are known as compensatory health beliefs. The beliefs which justify the unhealthy behavior by compensating or neutralizing it with a healthy behavior are known as CHBs. It lays emphasis on why people activate certain thoughts in a situation and mold it to justify their indulgences. CHBs have been used to study behavior in adolescents, dieters, smokers, drinkers, heart patients, and people who exercise as these populations activate them the most. Dieters usually follow their routine but fail to do so as it becomes difficult to stick to a strict routine in a long run. At such moments they activate their CHBs and satisfy their cravings. Nevertheless, it is not possible to fully compensate for the effects of unhealthy behavior.

Keywords: Compensatory health beliefs, Healthy behavior, Unhealthy behavior, Self-efficacy

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INTRODUCTION

Healthy and clean eating benefits are not hidden to anyone. To adopt a healthy lifestyle, people follow a number of measures of dieting and physical exercise. Over-consumption or under- consumption of food, substance abuse that is alcohol intake, smoking/chewing tobacco and sedentary life style has plenty of adverse effects which are clearly known. People often try to avoid such things which divert them from adapting a healthy lifestyle. Nevertheless, it has been seen that people fail to adhere to such self-care behaviors.

Insipte knowing the benefits of healthy eating differences exist in the perception of healthy eating in people. It comprises of several different kinds of behaviors. Many studies have reported that following a healthy diet plan is difficult for individuals. It has been seen that in a long run very less people are able to change their lifestyle properly (Forestier *et al.,* 2019). When people try to adhere to a diet plan (for example reducing salt intake, fired stuff) but then are offered with a delicacy such as a patty, people then face motivational conflict and confusion. This leaves them in an unpleasant state. It is noted that at this point of time people activate Compensatory health beliefs to come out of this unpleasant state. Compensatory health beliefs (CHBs) are defined as beliefs that the negative consequences of unhealthy behavior can be compensated for by engaging in healthy behaviors for its assumed positive effects (Radthe *et al.,* 2014b). Thus such beliefs help in lowering the guilt of engaging in unhealthy behavior. When people are tempted with unhealthy/junk food, they are unable to resist the desire to eat it. To fulfill that desire people activate CHBs. Thus lowers their temptation with underlying indulgence for that particular food despite the intention to eat healthy. In line with the context, many people consciously or sub consciously hold CHBs while making decisions about their lifestyles which can have a meaningful impact while planning interventions for various lifestyle- related diseases such as hypertension, diabetes, obesity, etc. It is very evitable that individuals with more compensatory behaviors are like to fall away from their health goals and might land up at being higher risk such as being overweight. This also gives an insight of why people fail to follow diets (Nooijer *et al.,*

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2009). Understanding the exact mechanism of CHBs, how they are activated and how people think they could compensate it would help in understanding about the failure of various health programmes. Many Health models have been developed to explain such behaviors and their actual application in natural settings.

Compensatory Health Beliefs

Compensatory beliefs are abstract ideas which are followed by people when they want to justify their unhealthy behaviors. For example, a person who aims for fitness but wants to eat junk might think he would compensate it by burning it off in the gym latter (Kaklamanou *et al.*, 2012 b). This would help to satisfy the craving and would stick him towards the health goals. Such beliefs dominate a person's thinking about different health behaviors (choosing between healthy and junk) which might affect their future health goals (Radtke *et al.*, 2014).

Basically, CHBs are obstacles when individuals try to follow particular health behavior such as following a diet plan. It explains on how and why many health programs/ interventions are not successful eventually. People hold many health goals such as being fit, toned up or free from any disease. In this process, they encounter situations which might divert them from attaining their goals such as cravings and desires of eating junk or unhealthy. Self-control over such behaviors that is resisting such temptations and sticking to the plan is the main goal. Therefore, planning interventions to target self-control in individuals would help in prevention of diseases (Rabia *et al.,* 2006).

In an experimental study done by National Institute of Health, Technology Assessment Conference which reported that majority of dieters regained weight within five years of dieting. This is because they couldn't follow a healthy routine for a longer period. A big question is that why it is difficult for people to follow and stick to a healthy lifestyle. Why people quit their healthy lifestyle in a long run and start eating junk food or follow a sedentary lifestyle. Much of the work is done on different types of health behaviors explaining how and why they occur. Accordingly, many health models have been formulated explaining the health behaviors. It is assumed that these behaviors are the end result of rational appraisal processes and motivational factors that are required to make a choice (Knauper *et al.*, 2004).

Another determinant of health is cognitive dissonance or mental conflict. In a given situation, when the desired pleasure is not healthy and comes in between the process a mental conflict arises. The negative health effects in a long term create an obstacle in indulging the pleasure. The person gets caught in the state of dilemma here. To resolve this state either there is a need to resist the desire or justify the indulgence. Such beliefs where the person uses certain beliefs to justify their unhealthy indulgences are being called as compensatory health beliefs or guilty pleasure dilemmas (Knauper *et al.*, 2004).

As explained by Rabia *et al.* (2006) the compensatory behavior is not only in response with the motivational cues rather affective in nature. The guilt experienced from incompletion of the set goal sets in the compensatory behavior. Another theory debated that rather than guilt regret triggers the compensation (Sorys, 2021). Guilt arises from social and interpersonal feelings when a person violates moral standards whereas regret arises from more personal encounters. People who aim to be fit and healthy when act inconsistently in the process regret and set in compensation for their wrong behavior.

A scale of compensatory health beliefs was developed by a Canadian scientist, Knauper *et al.* (2004). The scale had 4 categories of beliefs: substance use; eating/sleeping habits; stress; weight regulation. The internal consistency ($a = 0.80$) and test-rest correlation ($r = 0.75$) of the scale was found to be high. However, the scale was found to be inconsistent when used in other studies and in different populations (Nooijer *et al.,* 2009; Kaklmanou *et al.,* 2012a; and Radtke *et al.,* 2012c).

The reason of low homogeneity of the scale can also be due to difference in understanding the belief. A think aloud study pointed out various flaws such as wording of statements, understanding the exact meaning of the statement, perceiving beliefs in different situations, thinking about long term and short terms effects of the beliefs, etc. (Kaklamnou *et al.*, 2012b). This is because the scale was developed in context with Canadian population. The scales' applicability, reliability, and consistency lower when applied to different population. Hence, the scale must be developed keeping in context with the population it is used for (Kaklamanou and Armitage, 2012a; Malgorzata, 2015; Neter and Bagants, 2017; Oberschmidt, 2017; Ramirez, 2017; and Rabiau *et al.*, 2009).

Compensatory Health Belief Model

A model was developed by Rabia *et al.* (2006) to address the interplay of various factors responsible for particular behavior. A person in a given situation has either positive or negative approach towards it or well defined pre-conceived notions about what is right and wrong in it. For example, a person hogs on food while thinking that he would expend the extra calories in the next workout session.

The model focus on the conflicts arising in situations such as cravings, anticipated pleasures, and indulgences which might hinder their goals such as perfect body, health and fitness. The first is affective state and later motivation state. In line

with self-regulation theories, a model was developed addressing the interplay of affective states, motivation/goals and self-determination while performing any behavior. The major components of model are the cognitive dissonance arising at the time of facing dilemmas between cravings and goals. At this point, their decision on controlling their desires and stick to their goal depends on self-efficacy and high level of determination towards the goals.

While facing a conflict between desire and goal, either a person will indulge into the desire or will resist the desire. In the second case, the person has to hold high determination or self-efficacy to stick to their goals. This can be done by two states: Risk perception and outcome expectancy. Indulging into unhealthy behavior possess various risks as perceived by the person because of which he is able to resist the desires. Selecting a particular behavior over others due to the expected results they bring is known as outcome expectancy. These are both cognitive strategies to resist the desires and are quite effortful. The other way, an easy way is to come on a 'middle ground' which is indulging into the desire and later on compensating for it so that the goal won't be affected. Further elaborating on it, a belief will be activated that allow oneself to enjoy the pleasure by planning to compensate the negative effects in future. This will release the conflict and the person will think he is still on track. The CHBs will be activated when self- efficacy is low. Self-efficacy is a key predicator in Bandura's theory which is an individual's capacity to accomplish any particular action to achieve desirable results.

To activate the beliefs, a person has to distinguish between 'unhealthy behavior' and 'healthy behavior. If he or she does not have such distinction or any control over the situation, there will be no conflict. Thus, CHBs won't play any role in influencing the health choices or behavior (Ramirez, 2017). Thus, the CHB model aims to describe why people activate such beliefs and how they use them to justify their health choices, future outcomes and temptations.

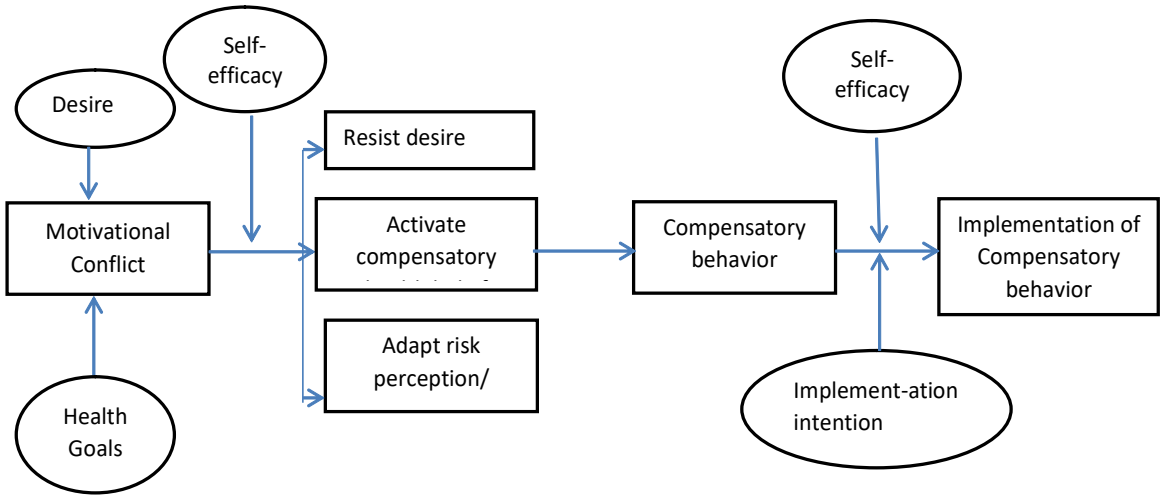
Compensatory Health Beliefs in Healthy Eating

People on weight loss diets or performing heavy workouts often focus on either the calorie content of the food they choose or the nutritional profile of the foods. This relationship has been explicitly explained in CHB model. People reward themselves with a high calorie food or their favorite food after a physical workout or compensate the calories of a calorie snack in an upcoming workout (Berli *et al.*, 2013; and Martins *et al.*, 2007). In the previous case a healthy behavior is being rewarded by unhealthy food choice and in latter case an unhealthy food choice is being compensated by healthy behavior. These are both compensatory health beliefs in different versions. The only problem is people who make a future commitment do not necessarily engage into it. The ill effects of maladaptive behavior, also, cannot be compensated in any way (Petersons *et al.*, 2019).

While following healthy eating or diet plans, people are faced with a lot of temptations. This is why only a few individuals are able to follow it in a long run. It is well documented that CHBs affect the intention while choosing various health behaviors. They negatively predict intention of unhealthy eating. However, overall it shows mixed results (Radtke *et al.,* 2012d; and Radtke *et al.,* 2014b).

While predicting the snacking behavior in 232 individuals the CHBs where recorded in two different situations. With the beliefs reported by the participants it was seen that CHBs influence the thought process while choosing between healthy

Figure 1: Compensatory Health Belief Model (Rabia *et al.*, 2006)



behavior (fruit and vegetable intake) and unhealthy behavior (eating junk food) (Amrein *et al*, 2017; and Amrein *et al*., 2021). While choosing the unhealthy behavior it was also noted that when participants engaged into unhealthy behavior they intended to compensate it by engaging in healthy behavior in future. This reflects that the participants were well aware about the negative effects of the unhealthy behaviour but also wanted to enjoy the delicacy they were offered. To resolve their mental conflict, they made a promise in their mind to neutralize the negative effects by performing some sort of physical activity in the future. The people who choose healthy snacking did not have to activate compensatory behavior. State CHBs (situational) and trait CHBs have been studied separately since they have different impacts on decision making (higher the CHBs greater the consumption of junk food). People, who usually do not activate CHBs but face a desirable situation, activate state CHB at the moment and justify their indulgences (Radtke *et al.,* 2012a). The study explained how and when people activate CHB or resist their temptations. When we talk about eating healthy, even consumption of fruits and vegetables depends on the mindset/goal of the person (Storm *et al*., 2016). Here also self-efficacy is the key construct in deciding the regular F&V intake. People on weight loss programs with high self-efficacy are able to control their cravings/temptations through risk perception or outcome expectancy. They judge the situation well and resolve their mental conflict which makes it easier to stick to the goal (Thongworn and Sirsuk, 2018).

Interventions dealing with front package labeling as healthy foods trick people in consuming the. For example, a diet conscious person will always check for such labels and consume it thinking it has low amounts of sugars and trans fat or a person who wants to eat cookies will choose cookies with labels such as multigrain, high protein, etc. Such products which are labeled as healthy are often consumed in more quantities underestimating their energy content. The licensing effect also reveals that compensation behaviors often involve energy balancing i.e expend more than eaten to achieve optimum weight. Such intervention will be effective only when people actually compensate for their extra calories or inactivity (Poelman *et al*., 2012).

Compensatory Health Beliefs in Other Health Behaviors

The use of CHBs has not only been seen in people dieting or working out but also in cases of coronary diseases, hypertension, diabetes mellitus, substance abuse such as drinking and smoking. People use CHBs at various stages in their lives which lead to the development of diseases. Individuals with coronary diseases who had high self-efficacy, the role of CHB were seen to negatively affect the decision making. The study also showed that CHBs positively predicted intention for individuals with coronary diseases with high risk perceptions (Forestier *et al.,* 2019). Steca *et al.* (2017) found that people with hypertension did not follow the diet as compared to the ones having coronary artery diseases. This is because people at that stage do not realize the seriousness of the disease and often tend to neglect treatment regimes. The attitude towards the treatment of disease at such stage that is, physical activity (Steca *et al.,* 2015) and DASH diet are not followed religiously since the individual is not able to witness adverse outcomes and procrastinate healthy habits. They feel that they have time and can adopt healthy lifestyle in future without any harm. Unfortunately, majority fail to do so which leads to development of diseases. Self-efficacy explains the formation of CHBs in a better way. People with low self-efficacy tend to form such shortcuts to support their decisions.

Use of CHBS in adolescent has been noted in several unhealthy/harmful behaviors such as smoking, snaking or selection of foods. Smoking specific CHBS amidst adolescent have been negatively associated with their intention to stop smoking. Though keeping such beliefs show the readiness to quit smoking but also hinders it by procrastinating every time. This also predicts that more a person keeps CHBs the more they indulge themselves in that behavior. The use of CHBs is an obstacle to health behavior change. The studies showed that smoking specific CHBs has been successful in predicting the intention of smoking that mean when a person perceives the risks behind smoking, he intends to quit it but as soon as he gets into different environment, the intensity of risk perception decreases and he decides to smoke for one last time. This vicious cycle goes on and hence it becomes difficult for the person to quit smoking meanwhile holding CHBs (Glock *et al*., 2013; and Radte *et al*., 2012c).

Many a times, people engage in compensatory behaviours but do not believe it that it can be compensated by healthy ones. Such as people consuming alcohol in excess did not justify their behavior since they were aware about the side effects of alcohol (Matley and Davies, 2017). Majority of such studies have used self-efficacy as a target to impose self-regulatory behaviours. CHBs have also been studied in patients with Diabetes using different health models. People who did not keep a check on their blood glucose levels regularly have poorer metabolic control. People holding CHBs have poor treatment adherence (Rabiau *et al.,* 2009). In the area of physical activity, researchers have focused on motivational cues affecting their behavior (Berli *et al*., 2013). At different stages of activity, different health behaviors are seen. Hence, it becomes difficult to actually evaluate the role of CHB in physically inactive or less active people. Further researchers should categories different stages of it and then see the compensatory behavior shown by people.

CONCLUSION

CHBs are beliefs in abstract form and it is not necessary that these beliefs are being converted into behavior and used as a justification for indulgences. It is important to study these in the form of intention and note its long term effects. A questionnaire assessing not only existence of such beliefs but also the frequency at which they are applied should be developed.

The use of CHBs while bringing a health behavior change to cure a disease or change in lifestyle through healthy programmes gives a shortcut to the person temporally to shift from a strict to easy approach. This may seem easy but has long term effects, for example, taking pills or weight loss shakes instead off burning calories in the gym, having concoctions the next morning after eating a high fat dinner.

A lot of research is pending in this area which can be used by various therapist, nutritionist, policy makers to achieve better health outcome. Longitudinal studies are required for better understanding of these beliefs amidst the population. The studies reported have been in foreign context. The concept is new in Indian origin and should be studies further.

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