

ESI 3.1: Catalog of behavior change techniques (BCTs)

According to Michie et al. (2013) a BCT is an observable, replicable, and irreducible component of an intervention strategy designed to alter or redirect causal processes that regulate behavior. That means a BCT is an intervention element that cannot be further decomposed, it is the elementary unit of behavior change.

An intervention strategy comprises one or several BCTs and a communication channel with which the BCTs are brought to the recipients. Communication channels should not be confused with BCTs as they are the instruments to deliver the BCTs. Communication channels are the “how” of an intervention strategy whereas the BCTs are the “what”. Several intervention strategies together form a behavior change campaign.

While many of the BCTs address more than one behavioral factor, all but one have a predominant behavioral factor on which they operate (see the main behavioral factor listed in the left-hand column below). The exception is *Exploit persuasive attributes*, which means using the persuasive attributes of the information/testimonial source and of the message. Persuasive attributes include the competence, sympathy, credibility, famousness, and publicity of the source and the length and number of arguments of the message. As every

BCT implies a specific source from which a specific message is sent, *Exploit persuasive attributes* can be applied in combination with every other BCT so as to increase impact.

As an example, we could exploit the persuasive attributes of specialists and medical doctors: For promoting the collecting of water from a safe well, at a community meeting at the health center, a water specialist, showing scientific data, tells about the level of contamination found by analyzing the water from the unsafe well. Subsequently, a medical doctor in a white coat explains the consequences of consuming the contaminated water on the human body. Information leaflets issued by a known medical institute are distributed to the audience. Alternatively, we could exploit the persuasive attributes of famous people: For promoting handwashing, a famous actress plays the leading part in a TV spot that promotes handwashing. She reprimands her sister in law for not having washed her hands before preparing food. She explains why this is important and shows how to wash hands correctly with soap and water.

In the following, for each factor block a list of BCTs is presented based on Abraham (2012), Michie et al. (2013) and Mosler (2012).

Information BCTs – Risk factors

The block of risk perceptions can be influenced by information techniques, meaning that with the given information the person is able to understand the menacing health threat.

Factor: *Health knowledge*

BCT1 Present facts

Description

Present information about the circumstances and possibilities of contracting a disease and the presentation of information about the relationship between a behavior and the disease.

Example of an intervention strategy: Collecting water from a safe well

During a household visit, participants are shown the health consequences of consuming contaminated water and how they could prevent it. Participants are also informed about the fact that contaminated water can still be used for other purposes than consuming it (e.g. washing clothes, showering). All explanations are supported with images.

Example of an intervention strategy: Handwashing

At a community meeting, participants get the pictures of each stage of an f-diagram – a graph, illustrating the transmission routes of diarrheal disease, including transmission from feces to food via hands. In small groups they try to put the pictures in the correct order of diarrheal disease transmission. The results are discussed in plenum.

BCT2 Present scenarios

Description

Present situations in the everyday life of the participant, showing how a certain behavior leads to the disease.

Example of an intervention strategy: Collecting water from a safe well

In a theater, a woman's typical everyday activities and related risk situations are shown. One scene, for instance, shows a child crying because it is thirsty. Unfortunately, the mother ran out of safe water because she had forgotten to collect water at the safe well in time. In order to consolidate the child quickly, the mother gives him water to drink from the contaminated shallow well in the compound and the child gets sick. In another scene the woman is collecting water at the safe well and mixes the safe water with the remaining unsafe water in the storage container and also gets sick after drinking.

Example of an intervention strategy: Handwashing

A movie showed in public sessions depicts different scenarios of how family members can get sick. First, a mother has just finished cleaning the latrine in the back of the courtyard while her son is playing next to it. Without washing her hands, she takes the boy by the hand and leads him back to the house where he eats something with his hands. The child, in this way eating the bacteria, shows up later in the movie, suffering from diarrhea. Thereafter, the woman removes animal feces in the courtyard before preparing food. This time, she does wash her hands after the contact with stool, but she forgets to use soap. Her husband eats the prepared food and he gets sick. Further scenarios are shown. In all scenarios, the bacteria that pass on from feces to hands to food or directly into the mouth of different persons are visibly marked to highlight the transmission.

Factor: *Vulnerability*

BCT 3 Inform about and assess personal risk

Description

Present qualitative and quantitative assessments individually for each person in such a way that the person realizes that his/her health is at risk and give individualized messages which focus on cumulative risk effects. It can be useful to request persons to assess their own or their family's susceptibility to

contract a disease. If the person has false beliefs about his/her invulnerability they should be discussed and *personal risk information* should be given.

Example of an intervention strategy: Collecting water from a safe well

In a community, a previously conducted analysis of the drinking water stored at household level has shown that 100% of the households consumed contaminated water. Each household is separately informed about the results of the study: “The water you drink in your household is contaminated. Your family is at risk!”. The promoter asks the participant: “What do you think, is your daughter going to have health problems if she continues to drink raw water?”. The same question is repeated for all household members, including the participant herself/himself. If the participant assesses his family’s vulnerability as low, the promoter asks further questions about the quantity of water consumed from the unsafe well and discusses the consequences on health.

Example of an intervention strategy: Handwashing

A promoter observes handwashing behavior in a household for an hour. Subsequently the promoter points out each situation, in which hands should have been washed but weren’t. The participants are asked “What do you think, are you/your husband/your children going to have health problems if you continue not to wash hands at the key time?”. The risk is emphasized by showing pictures of people also omitting handwashing at the specific moments who subsequently suffer from diarrhea. The vulnerability of small children is especially stressed.

The promoter requests the primary caregiver of the children in the household to imagine she does not wash her hands at critical moments, and to assess

the resulting risk for the children: “If you don’t wash hands with soap and water after using the latrine, how likely is it that one of your children gets sick?”. Different critical moments for handwashing are discussed in order to point out the importance of washing hands with soap and water at *all* critical moments, whether the dirt is visible or not.

Factor: Severity

BCT 4 Arouse fear

Description

Use threatening information that stresses the severity of contracting a disease. Even more effective might be graphic illustrations of pain or distress, bodily disabilities or decay or even death.

Example of an intervention strategy: Collecting water from a safe well

In a face to face situation a promoter shows pictures of people suffering heavily from a disease as a consequence of drinking unsafe water.

Example of an intervention strategy: Handwashing

In a radio spot, a very upset woman tells a friend that her neighbor’s child has died from diarrhea and how bad that was. Her interlocutor is equally shocked about the news. She says: “Pay attention! If you don’t always wash your hands with soap and water after contact with stool and before handling food, the same could happen to your child!”

Persuasive BCTs – Attitudinal factors

Beliefs about costs and benefits as well as feelings about (omitting) the behavior can be changed by bringing forward strong arguments, using persuasive attributes or highlighting emotions.

Factor: *Beliefs about costs and benefits*

BCT 5 Inform about and assess costs and benefits

Description

Provide information about costs and benefits of a behavior (omission) and conduct a cost-benefit analysis. This includes not only financial costs and benefits, but also health or social consequences and the entailed effort. The use of arguments which apply causal explanations, explain functionality, present novel and important information and are of high positive expectancy value is very effective. Participants can be asked to assess costs and benefits of the behavior.

Example of an intervention strategy: Collecting water from a safe well

During a household visit, the higher price of water from the safe well is explained by its better quality. For a better understanding, safe water is compared to other quality products known by the participant. The promoter asks the participant to think about the price difference between other high and low quality products: It is logical that one type of rice is more expensive than another type of rice because of its quality. It is also logical that butter is more expensive than oil because it is healthier. This is the same for water from the safe well; it costs more because it is healthier and of better quality than untreated water.

Example of an intervention strategy: Handwashing

During a household visit, the promoter calculates together with the participant and considering the number of family members how much soap and water the household would need per week for always washing hands at critical moments and the corresponding costs. The total monetary costs are compared to the monetary costs of a medical treatment and the effort

compared to the effort of taking someone to the hospital or caring for a sick family member.

BCT 6 Use subsequent reward

Description

Reward the person each time when she/he has performed the desired behavior or achieved the behavioral outcome. The reward can be material (e.g. money or vouchers) or social (e.g. congratulation for having performed the behavior). Social reward can be verbal or non-verbal. The person can also build an own incentive system to self-reward him-/herself each time when performing the desired behavior.

Example of an intervention strategy: Collecting water from a safe well

Participants get a voucher with 10 empty fields. Every time they collect water at the safe well, the vendor marks one of the designated fields with a stamp. After 10 stamps the person can hand out the token to the vendor and get 20 liters of water from the safe well for free.

Example of an intervention strategy: Handwashing

Families can get a soap for free if they manage that all members always wash their hands with soap and water before eating, during one or two week(s). This would be controlled by visiting the household several times unannounced and checking whether the handwashing station is in function (soap and water available).

BCT 7 Prompt to talk to others

Description

Invite participants to talk to others about the healthy behavior in question. When trying to convince others the person herself is subject to self-persuasion because of generating and recalling arguments in favor of the new behavior.

Example of an intervention strategy: Collecting water from a safe well

Together with information about the advantages of collecting water from the safe well, participants receive two half price vouchers for 20 liters of water from the safe well. One token is for the participants themselves. As for the second token, participants are asked to pass it on to a friend or neighbor and to explain him/her the advantages of collecting water from the safe well. The water vendor makes sure that only one token per household is used.

Example of an intervention strategy: Handwashing

At a community meeting participants are asked to tell the other participants why they wash their hands with soap and water at critical moments and why the others should do the same.

Factor: Feelings

BCT 8 Describe feelings about performing and about consequences of the behavior

Description

Present the performance and the consequences of a healthy behavior as pleasant and joyful and its omission or an unhealthy behavior as unpleasant and aversive. The participant can be invited to assess and describe his/her feelings by him/herself, others can testify their feelings or feelings can be induced.

Example of an intervention strategy: Collecting water from a safe well

A movie publicly shown at different locations in the community presents two women going to the safe water well to collect water. They visibly enjoy the time they spend together. At the well they meet an old friend and have a nice chat with her.

Example of an intervention strategy: Handwashing

During a household visit, a promoter washes hands together with the participant. The promoter puts the participant in a good humor and asks him/her to describe the good feeling of washing hands with soap and water. The promoter takes a picture of the participant and attaches it next to the

handwashing station in the household. The picture is to remind the positive feeling of washing hands and may increase liking to go to the handwashing station because the participant can watch his/her picture while washing hands.

Norm BCTs – Normative factors

BCTs targeting norms are provided to change the perceived social pressure resulting from personal beliefs about other people's behavior and personal beliefs about others' appreciation of the behavior.

Factor: *Others' behavior*

BCT 9 Inform about others' behavior

Description

Point out that a desired behavior is already adapted by other persons. Alternatively, social comparison can be encouraged; the participant is invited to compare the own behavior with the behavior of persons that perform the desired behavior. Giving the message that an undesired behavior is regrettably frequent is counter-effective.

Example of an intervention strategy: Collecting water from a safe well

In a community, posters that say "In this household we drink water from the safe well" are given to households that already drink safe water. For those who cannot read the message is also illustrated with pictures. Fixed at the entrance door the poster is visible to the neighbors and highlights how many households of the community already use water from the safe well.

Example of an intervention strategy: Handwashing

Households build a handwashing station (e.g. tippy tap) in their courtyards. If it is placed at a visible spot, family members mutually perceive their handwashing behavior. Additionally, other households can see the handwashing station and might build one in their own household.

BCT 10 Prompt public commitment

Description

Let people commit to a favorable behavior and make their commitment public, thus showing to others that there are people who perform the behavior. The

commitment can be oral in front of an audience (pledging) or on the radio/TV, written at a public place, or by means of a sign attached to the committed person or his/her house so that others can see it. Signs of commitment or agreement may differ between cultures and groups, e.g. in some cultures, shaking hands with the promoter may be appropriate for men but not for women.

Example of an intervention strategy: Collecting water from a safe well

Households that commit to always collect drinking water from the safe well install a blue flag on a long wooden stick on the rooftops. The blue color of the flag represents safe drinking water.

Example of an intervention strategy: Handwashing

Participants are asked if they commit to always wash their hands with soap and water before handling food and after possible contact with stool. If they agree, they get a certificate with the written commitment and a picture of themselves while washing hands with soap and water. The certificate and the picture are put up above the household's entrance door where visitors and passersby can see it.

Factor: *Others' (dis)approval*

BCT 11 Inform about others' approval/disapproval

Description

Point out that important others support the desired behavior or disapprove the unhealthy behavior. Important others may be family members, neighbors, popular persons etc. Their approval/disapproval can be expressed by themselves or a promoter can inform about their opinion. Alternatively, the person can be encouraged to reflect on others' opinion. Possible consequences of others' approval/disapproval can be highlighted.

Example of an intervention strategy: Collecting water from a safe well

The village leader communicates through loudspeakers his approval of collecting drinking water at the safe well and that he would be proud to be the leader of a village that drinks safe water. He points out that this is how he can be sure that his community stays well.

Example of an intervention strategy: Handwashing

Participants get a voucher from a neighboring community health worker. It shows a woman washing her hands with soap and water, with the following text: “I (community health worker’s name) appreciate that you (participant’s name) always wash your hands with soap and water before handling food and after contact with stool.”

Factor: Personal importance

BCT 12 Prompt anticipated regret

Description

Bring people to imagine the concerns and regret they would feel after performing undesired behaviors which are not consistent with their personal norms of living healthily and caring for their children.

Example of an intervention strategy: Collecting water from a safe well

During a household visit, the promoter asks the participant whether she cares about her family’s health. Almost everyone answers affirmatively to such a question. Then, the promoter explains that it is crucial to collect water for drinking from the safe well to assure that all family members stay well and says: “Imagine one of your children gets sick and suffers from a severe diarrhea because of the unsafe water he has drunk at home. Knowing how you could have prevented the suffering of your child, imagine how bad you would feel!” The participant is asked to describe the probable regrets.

Example of an intervention strategy: Handwashing

The protagonist in a theater is a mother who does not wash her hands correctly with soap and water at several critical moments because she is in a hurry or she does not feel like washing hands. Consequently her child gets

very sick and nearly dies. The mother regrets having neglected to wash hands and worries about the child.

BCT 13 Provide a positive group identity

Description

Describe people already engaged in the behavior in an attractive way, e.g. as modern and up-to-date, to view the proposed behavior change as having a positive influence on one’s identity. People may aspire to be one of those positively described persons and therefore change behavior.

Example of an intervention strategy: Collecting water from a safe well

After an information session about the consequences of drinking unsafe water, the promoter emphasizes: “People that collect drinking water at the safe well have a strong personality, show that they care for their family and are well respected in the community!” or the promoter moderates a discussion among the participants about the positive characteristics of the people drinking water from the safe well.

Example of an intervention strategy: Handwashing

In a radio spot, two men talk about how lucky they are that their spouses always wash hands with soap and water before handling food and after possible contact with stool, and that they are very good mothers!

BCT 14 Prompt identification as role model

Description

Ask participants to set a good example (e.g. for children) by engaging in the desired behavior so as to influence others’ behaviors by one’s own behavior.

Example of an intervention strategy: Collecting water from a safe well

Women are encouraged to join a community health club that campaigns for the health of the villagers. Club members are motivated to set a good example and collect their drinking water at the safe well.

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Example of an intervention strategy: Handwashing

A movie is watched at organized meetings for women in the community. Several scenes in a movie show how a child imitates his mother, also in washing hands. If the mother uses soap, the child also uses soap. If she does not, the child does alike. After the movie a health promoter explains: "Children imitate their parents. If you want your children to stay well, it is important that they wash their hands with soap and water at critical moments. You are a model to them; they will imitate what you do. So wash your hands with soap and water after possible contact with stool and before handling food!".

Infrastructural, skill and ability BCTs – Ability factors

Infrastructural, skill and ability BCTs help people to gain confidence in their capability to perform a behavior, which means that they get a better appraisal of what they can do.

Factor: *How-to-do knowledge*

BCT 15 Provide instruction

Description

Convey know-how in order to improve a person's knowledge about how to perform the respective behavior.

Example of an intervention strategy: Collecting water from a safe well

At a community meeting the new well is presented and it is explained how to operate it. Participants also get informed about the different locations of the safe wells and the business hours.

Example of an intervention strategy: Handwashing

During a household visit a promoter explains a poster which depicts the different steps of handwashing, including use of soap. The poster is then fixed at the usual handwashing place in the household.

Factor: *Confidence in performance*

BCT 16 Provide infrastructure

Description

Prompt and support the community or households to set up infrastructure. The infrastructure can be communal (e.g. community filters, community wells) or private (e.g. household filters). To have the necessary infrastructure (e.g. vessels for water collection, filters for filtering water etc.) is a precondition for performing the behavior, at least it facilitates the performance of the behavior.

Example of an intervention strategy: Collecting water from a safe well

A community well is built in order to provide safe water to all the community members.

Example of an intervention strategy: Handwashing

Households are prompted to construct a handwashing station (e.g. a tippy tap).

BCT 17 Demonstrate and model behavior

Description

Demonstrate a behavior and prompt participants to pay attention to others performing the behavior and its consequences in their everyday life or show movies or pictures of people performing the behavior. Especially a model that is similar to the observing person increases the feeling of "I am also able to do it". A popular model can increase the desire to emulate. Additionally, observing the positive consequences of the desired behavior for others (or the negative consequences of the undesired behavior) can encourage a behavior change.

Example of an intervention strategy: Collecting water from a safe well

Several posters, hung up at public places, show women from the village collecting water at the safe well. On one of the posters the village leader's spouse is seen with her water vessel on the way to the safe well.

Example of an intervention strategy: Handwashing

A promoter demonstrates how to build a tippy tap (handwashing station) during a public session. After construction, persons of different ages and sexes are requested to try out the tippy tap and wash their hands with soap and water. Thus, everyone in the public is offered a model to identify with.

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BCT 18 Prompt guided practice

Description

Train participants in behavior enactment by giving instructions, demonstrating the behavior, letting him/her practice and giving feedback about the correctness of the performance. Being guided can help to overcome possible hesitations about the performance of the behavior.

Example of an intervention strategy: Collecting water from a safe well

A female participant hesitates to go to the new safe well because she would have to pass a public place that is mainly visited by men and she is afraid that they might bother her. A female promotor accompanies her on her first visit to the new safe well. The participant experiences that she can pass the public place without being approached or mocked by men. This strengthens the participant's confidence in her ability to collect water from the safe well.

Example of an intervention strategy: Handwashing

During a household visit, the promotor and the participant wash hands together. The promotor shows and explains how to wash hands correctly. She/he makes sure the participant respects all the important steps, has water available at the handwashing station and uses soap.

BCT 19 Prompt behavioral practice

Description

Prompt participants to practice the new behavior. This can be done in an organized setting like during group meetings or as homework. Participants could also be encouraged to try out alternative options of the desired behavior and choose the most convenient one (e.g. different methods for water treatment). Practice improves the performance, especially of new behaviors. For known behaviors, repeated performance is crucial for habit development.

Example of an intervention strategy: Collecting water from a safe well

During a weekly meeting of the community health club, the members collectively go to the safe well to collect water. Homework for the following week is to try out the new safe well at least once more.

Example of an intervention strategy: Handwashing

During a household visit a promotor suggests to the participant to try to always wash hands with soap and water at critical moments that day. The promotor asks to stay in the household for two hours to observe the handwashing behavior. The promotor reminds the participant each time she/he forgot/neglected handwashing.

BCT 20 Facilitate resources

Description

Provide financial help. It may be unconditional or conditional, meaning the recipient has to contribute (e.g. with manpower) to get the resources.

Example of an intervention strategy: Collecting water from a safe well

Households get a voucher which allows them to buy water from the safe well at a reduced prize during a period of two months.

Example of an intervention strategy: Handwashing

Families that build a handwashing station (e.g. tippy tap) for their household get a reimbursement for the parts needed for the construction.

BCT 21 Organize social support

Description

Prompt participants to seek practical or emotional support from neighbors, friends, acquaintances, or relatives and/or to initiate social support groups. This can include monetary and physical help, action knowledge or (verbal) emotional support.

Example of an intervention strategy: Collecting water from a safe well

Supported by a promotor, two neighbors arrange to go to the safe well every morning and one of the neighbors has a trolley which can be used by both for transporting the water containers. The promotor helps them to find a time that is convenient to both.

Example of an intervention strategy: Handwashing

Group meetings with all members of a household are organized. A promoter moderates the meeting and requests participants to think about who could remind whom in which situations to wash hands with soap and water if he/her doesn't. A child for example, that sees the mother is just about to cook could ask her if she has washed her hands with soap.

BCT 22 Use arguments to bolster self-efficacy

Description

Convince participants that they will be able to perform and/or maintain the desired behavior for example by emphasizing that the person will succeed because similar others also have succeeded. Alternatively, people can be prompted to think by themselves about arguments why they are able to perform the behavior.

Example of an intervention strategy: Collecting water from a safe well

After a public information session, the instructor says: „I know the safe water is farer away than the water from the pond, but I also know you will be able to manage your daily routine as you do already very well! The women from the close-by village also succeeded in collecting their water from the safe well, so will you!”

Example of an intervention strategy: Handwashing

A promoter first talks with the participant in order to find out in which situations the participant normally washes hands and if she/he uses soap. Then, he assures: “You will be able to always wash your hands with soap and water at critical moments! You already succeed to wash your hands with soap and water before eating, so you will also manage to wash your hands before preparing food and after possible contact with stool! Besides, it doesn't take a lot of time. You are a good mother who already cares very well for her family! You are definitely able to do it!”

BCT 23 Set graded tasks/goals

Description

Prompt participants to learn difficult behaviors including several tasks step by step. The participant begins with a very easy task or part of a task. Once this first task is managed and practiced, a second step is tackled. This way, the participant has a feeling of success and is motivated to continue. Trying to change behavior all at once can seem stressful, the person may feel unable to manage it and abandon the new behavior in face of initial failings.

Example of an intervention strategy: Collecting water from a safe well

Members of a community health club collectively set weekly tasks. In the first week, they collect water at the safe well once. From the second to the 6th week they collect as much as they need for their children. From the 7th to the 9th week, they try to collect drinking water at the safe well for all household members.

Example of an intervention strategy: Handwashing

During weekly household visits, a promoter prompts the participant to set graded tasks for handwashing with soap and water at critical moments. First, handwashing before cooking could be tackled. When the participant has achieved the first goal, a second goal is set (e.g. washing hands with soap and water before all sorts of handling food). The final aim is to always wash hands with soap and water at all critical moments.

Factor: Confidence in continuation

BCT 24 Reattribute past successes and failures

Description

Prompt participants to attribute successes as personal achievements and failures to adverse circumstances or to not yet developed but achievable skills instead of to personal deficiency.

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Example of an intervention strategy: Collecting water from a safe well

At a group meeting, everyone tells a situation when it was difficult to collect water at the safe well, but the person managed to do it anyway. Collectively they point out the good acting of the person in that difficult situation.

Example of an intervention strategy: Handwashing

In a face to face session, the promoter asks the participant to describe different situations where she/he did not wash hands when required and other situations where the person managed well to wash hands with soap and water at a critical moment. For situation where the participant did NOT wash hands, the promoter attributes the omission to the circumstances. If the participant DID wash hands with soap and water, the promoter praises the person and stresses his/her merit.

Factor: Confidence in recovering

BCT 25 Prompt coping with relapse

Description

Tell participants that lapses are normal when adopting a new behavior and – though discouraging – not a sign of failure. Participants should learn to differentiate a single lapse (i.e. part of every behavior change process) from complete relapse (i.e. abandonment of the new behavior).

In order to motivate a person to restart performing the behavior after a lapse this BCT can favorably be combined with different other BCTs, such as *Reattribute past successes and failures* (BCT 24), *Use arguments to bolster self-efficacy* (BCT 22), *Organize social support* (BCT 21) or *Prompt (self-)monitoring of behavior* (BCT 27). BCTs for planning the restart can also be useful.

Example of an intervention strategy: Collecting water from a safe well

The promoter prompts the participant to formulate an intention about how to restart performing the behavior, e.g. in case of a lapse, the person would inform the neighbor and they would collect water from the safe well together the next day.

Example of an intervention strategy: Handwashing

During a household visit, the promoter asks the participant to think about the last time she/he learned something new, e.g. cooking a new dish. At the beginning it was probably not as tasty as when the mother cooked it, but after some time she/he did very well. It still happens sometimes that the participant adds too much salt, but that doesn't mean she/he is a bad cooker, it's just a mistake that might happen from time to time. The same it is with handwashing. If one doesn't wash hands at all times it is not a complete failure.

Planning & relapse prevention BCTs – Self-regulation factors

Planning interventions in general help to translate goals into actions by preventing distraction, avoiding falling back into old habits or inhibiting failing to get started. Relapse prevention BCTs can enable persons to foresee high-risk situations in which lapses may happen and to avoid them.

Factor: *Action planning*

BCT 26 Prompt specific planning

Description

Stimulate participants not only to formulate *what* she/he will do, but also *when*, *where*, and *how* she/he intends to achieve his or her goals. One form of planning is the daily routine planning where the person is prompted to plan exactly *when* to perform the desired behavior in the course of daily life. The ideal moment is discussed with the person in order to assure a realistic planning. Depending on the behavior, more than one moment in the daily routine can be defined. Detailed planning supports the achievement of a set goal. The more specific the planning is, the higher is the chance that the person will actually remember to engage in the behavior in the planned moment. Ideally, it leads to a (nearly) automatic performance of the behavior.

Example of an intervention strategy: Collecting water from a safe well

During a home visit, the participant is asked to define after which activity, at which well and how many vessels of safe water she/he will collect each day. The promoter writes it down on a form and illustrates it with stickers that represent the time of the day or the number of vessels etc. The filled form is handed out to the participant who is invited to hang it up next to the water storage.

Example of an intervention strategy: Handwashing

During a home visit, in addition to planning the handwashing routines in detail, the maintenance of the handwashing station is also planned. The participant

is requested to specify first, a moment in the daily routine to check whether water has to be refilled at the handwashing device; second, where the person will take the water for refilling from (e.g. a certain well or from the water storage container in the household); and third, how much water she/he will refill.

Factor: *Action control*

BCT 27 Prompt (self-)monitoring of behavior

Description

Invite participants to (self-)monitor their behavior by means of recording it (e.g. frequency). Participants can monitor their behavior themselves or ask another person to do it. Monitoring increases the awareness of one's behavior and thus reinforces the behavior.

Example of an intervention strategy: Collecting water from a safe well

Participants get a form or some other device for record keeping (e.g. sticks or small stones) and are invited to hang/put it up at home. They are asked to record every day the quantity of drinking water collected at the safe well and the quantity of drinking water collected at the unsafe well.

Example of an intervention strategy: Handwashing

Households get a weekly calendar to hang up at the handwashing station. On the left side of the calendar household members list their names or attach a sticker for each member. On the right side of the calendar are columns for each day of the week, into which the household members can put a mark each time they washed their hands before/after a key time.

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BCT 28 Provide feedback on performance

Description

Give participants a feedback on their behavior performance. A feedback helps to assess one's performance and if necessary to correct it. Feedback provided over a longer period can reveal improvement and give the participant confidence in her/his abilities.

Example of an intervention strategy: Collecting water from a safe well

During one month, the water vendor at the safe well gives weekly personal feedback to the costumers, e.g. "This is the third week you collected water at the safe well every day – congratulations, you are doing very well!".

Example of an intervention strategy: Handwashing

During one month, a promoter visits the participant once a week. Together they evaluate the self-monitoring form the participant has filled in during the last week. Depending on how often the participant has washed hands with soap at critical moments, they put a sticker with a happy, a neutral or a sad smiley on the participant's form.

BCT 29 Highlight discrepancy between set goal and actual behavior

Description

Invite the participant to regularly evaluate the actual behavior performance (e.g. correctness, frequency and duration) in relation to the set behavioral goal. Therewith, discrepancies between the current behavior and the set goal may be revealed. The evaluation can be done either by the person herself/himself or by a third person, e.g. a health promoter.

Example of an intervention strategy: Collecting water from a safe well

During a home visit, a promoter asks the participant how many vessels she/he has collected from the safe well this week. Together, they evaluate whether there is a difference between the previously set goal and the actually collected number of vessels.

Example of an intervention strategy: Handwashing

Each night, participants reflect on the behavioral goal they set the previous week (e.g. washing hands with soap and water at all key situations) and their actual behavior during the ending day (e.g. having washed hands with soap after contact with stool and before cooking and eating but not before feeding the baby).

Factor: Barrier planning

BCT 30 Prompt coping with barriers

Description

Ask participants to identify barriers to behavior change and plan solutions to those barriers. Participants can think about strategies she/he has already used in previous situations or develop new solutions. Identifying barriers alone might decrease self-efficacy and thus reduce the desired behavior; finding solutions to frequently occurring barriers, however, is crucial.

Example of an intervention strategy: Collecting water from a safe well

During home visits, participants are asked to name three situations or things that do or could hinder them in collecting water from the safe well (e.g. the safe well she normally collects water from is broken). For each barrier the promoter and the participant think about a possible solution (e.g. identifying the closest other safe well where she/he will collect water instead). The promoter writes both, the discussed difficulties and the solutions, into a form and illustrates the barrier-solution-pairs by means of stickers. The participant is asked to hang up the filled form in the household.

Example of an intervention strategy: Handwashing

The promoter arranges a meeting with the primary caregivers of five neighboring households. The participants are requested to each name the reasons why they might/do fail to always wash their hands with soap and water at critical moments even if they intend to do so. All difficulties are jointly discussed in order to find a solution to them. Participants may have faced

similar problems and can exchange on approved strategies for overcoming them.

BCT 31 Restructure the social and physical environment

Description

Prompt participants to remove social and physical bolsters of the undesired behavior so as to interrupt habitual procedures and to facilitate the desired behavior. Relevant bolsters may be social situations or a certain physical environment that trigger the undesired behavior. Bolsters of an undesired behavior are very individual and need to be identified separately for each participant or household.

Example of an intervention strategy: Collecting water from a safe well

During household visits, participants are prompted to think about what does normally facilitate to go to the unsafe well. The promoter goes through the course of action of the participant and if necessary they reenact the habitual sequence of initiating and going to the unsafe well in order to identify undesired social and physical bolsters. Together, they remove the identified social and physical bolsters (e.g. removing the wooden plank for crossing the stream to go to the unsafe well or arrange with the neighbor to meet at the safe well instead of at the unsafe well).

Example of an intervention strategy: Handwashing

This BCT is not applicable for handwashing as the undesired behavior is *not* to wash hands.

BCT 32 Prompt to resist social pressure

Description

Ask participants to anticipate and prepare for negative comments from others or for pressures towards the undesired behavior (e.g. verbalized expectations towards the undesired behavior or the routine to jointly perform an undesired behavior). Possible reactions to overcome the social barriers can be developed e.g. through role plays or discussing video scenarios.

Example of an intervention strategy: Collecting water from a safe well

During a group meeting a participant identified the joint water collection at the unsafe well together with her/his neighbor as a social barrier. She/he reenacts the situation when the neighbor comes to pick her/him up to collect water at the unsafe well as usual. Different possible reactions are tested and exercised in order to go to the safe well alone or convince the neighbor to come along.

Example of an intervention strategy: Handwashing

During a group meeting a movie is shown which presents different scenarios on how one can resist being hindered from handwashing due to someone else's expectation. For example a woman is coming from the latrine and wants to wash her hands. Her husband disrupts her attempt and criticizes her for wasting soap by washing hands so often. The woman explains him that handwashing with soap at key times is an essential mean to keep the family healthy and that this saves money otherwise spent for medical treatments. Then she picks the soap and washes her hands thoroughly. In moderated groups, the participants discuss the scenarios and reflect on additional possible reactions.

BCT 33 Provide negotiation skills

Description

Prompt participants to reflect on others' perspectives to find compromises that benefits both sides and arguments bolstering them. Participants should learn how to communicate their concerns and needs and how to assert themselves without aggressing others. This can be trained by means of interactive exercises or by discussing video scenarios. Negotiation skills are especially needed when behaviors include others.

Example of an intervention strategy: Collecting water from a safe well

During group meetings participants mention the problem that going to the safe well takes more time than collecting water at the unsafe well and that therefore other household activities may be delayed (e.g. lunch preparation). Participants do role plays to find out and practice how to react to the family members' possible protests when they have to wait for lunch or assist in preparing food.

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Example of an intervention strategy: Handwashing

In a group moderated by a promoter, participants reflect jointly on why the head of household could refuse to pay the needed soap for handwashing and learn convincing arguments that support the purchase (e.g. buying soap is cheaper than paying for medical treatments if the children get sick).

Factor: Remembering

BCT 34 Use memory aids and environmental prompts

Description

Prompt the participant to install memory aids or to exploit environmental cues so as to help to remember the new behavior and to trigger it in the right situation. A cue is most effective if it is placed where the behavior is meant to happen. One option is to use a poster that depicts for example the various steps of the behavior as a cue. It is also possible to use environmental triggers that remind to perform the behavior. In some cases it is sufficient to rearrange an already existing device in the household so that it serves as a cue (e.g. putting soap and water visibly in front of the latrine).

Example of an intervention strategy: Collecting water from a safe well

Participants are motivated to put an extra vessel designated for collecting drinking water next to the other transport containers in order to remind them to fetch drinking water at a different well than water designated for other purposes.

Example of an intervention strategy: Handwashing

Households are encouraged to hang up a poster with hands that are being washed with soap and water at the cooking area in order to remind handwashing before touching food.

Factor: Commitment

BCT 35 Prompt goal setting

Description

Invite participants to formulate a behavioral goal or intention (e.g. I will pay attention that my children drink safe water).

Example of an intervention strategy: Collecting water from a safe well

During a household visit, to give an example to the participant, the promoter tells the participant what goal she/he has set (e.g. from now on, I collect my drinking water at the safe well). Then, she/he asks what the participant wants to do and invites her/him to formulate her/his own intention and to tell it aloud.

Example of an intervention strategy: Handwashing

During a group meeting participants are prompted to set the goal that they will wash hands in all key situations (e.g. before feeding a child). The key situations, which are depicted on a poster, are each addressed separately.

BCT 36 Prompt to agree on a behavioral contract

Description

Invite the participant to agree on a behavioral contract to strengthen her/his commitment to a set goal. The contract can be in writing or orally (or e.g. represented by a picture or a handshake), and in form of a self-commitment or an agreement with another person or the public (see also public commitment).

Example of an intervention strategy: Collecting water from a safe well

At a community meeting, people sign a contract to collect their drinking water at the safe well. Illiterate participants sign with a finger thumb.

Example of an intervention strategy: Handwashing

During a household visit, participants sign a contract to wash their hands with soap and water before handling food and after possible contact with stool. Participants sign two copies, one for the person itself and one which the promoter keeps.

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