

## Behaviour therapy for medical practice

**Chandanie G Hewage**

*Senior Lecturer, Department of Psychiatry, Faculty of Medicine, University of Ruhuna, Galle*

Clinicians use various treatment methods to treat their patients. Pharmacological treatment is the main treatment method used in western medical practice. Therefore, during the five year training of a medical undergraduate, significant time is spent acquiring knowledge in pharmacology. Once graduated, doctors acquire skills in prescribing medicines to various illnesses as mono-therapy as well as combination treatment.

Surgical skills, too, are given some emphasis during undergraduate training period and those who work in surgical units acquire surgical skills during the internship.

The responsibility of a medical officer to his patient does not end there. In addition to prescription of medicine and surgical interventions, patients expect their doctors to advise them regarding food, health habits and handling behaviour patterns of children. During early parts of the medical undergraduate training, undergraduates get an adequate input on food and nutrition. This is useful for doctors when they have to advise patients regarding food and nutrition. It is my personal experience as a clinical teacher that out of all the skills required by a medical officer, behaviour management methods are given no or very minimal attention during undergraduate training. It is not common for young doctors to acquire knowledge in behaviour therapy principles or skills in behaviour therapy techniques during early parts of their career because only few of them get exposed to clinical settings where behaviour therapy is routinely practiced. Therefore, I believe that majority of the doctors continue to have limited knowledge and skills in behaviour therapy techniques useful for their clinical practice as well as for day-to-day life.

Children and child rearing becomes important part of life in a majority of doctors some time in

their lives. It is a known fact that nobody gets any training in “parenting”. We all rear our children without having any training or scientific knowledge in parenting or behaviour therapy techniques useful in parenting. The chances of people practicing wrong or harmful behaviour modification methods with children, therefore, are high.

### What is behaviour therapy?

Behaviour therapy is use of various behaviour techniques by the therapist or a person to achieve modification of behaviour of another person. This could be behaviour of a child, adult or an animal. Behaviour therapy is based on an assumption that most behaviours are developed and maintained on learning principles [1].

Specific behaviour therapy techniques are derived from each of the four types of learning: **respondent conditioning, operant conditioning, cognitive behaviour modification, and social learning** [1].

The principles of “respondent learning” is the most widely known. Respondent conditioning is based on the observation that certain behaviours known as respondents are elicited involuntarily as response to certain stimuli. This was first demonstrated by Pavlov using his experimental dogs [2]. Respondent conditioning in humans was first demonstrated by Watson and Raynor (1920) in their experiment with Albert, an 11 month-old infant [3]. After allowing Albert to play comfortably with a furry white rat, the experimenters started to startle Albert with a loud noise whenever he began to play with the rat. After only seven pairings Albert's pronounced startle to the noise was capable of being elicited exclusively by the sight of the rat, thus revealing a conditional fear response.

Another form of learning is “operant conditioning”. It is based on Thorndike's observation that behaviour is strengthened or weakened by its consequences [4]. Skinner termed such behaviours “operants” because they operate on the surrounding environment to generate consequences. Thus behaviour that is followed by pleasant consequences is likely to increase in frequency, whereas behaviour followed by unpleasant consequences is likely to decrease in frequency. Skinner argued that most human behaviours are operant in character and he advocated that the principles of operant conditioning be used to solve many types of behaviour problems [5]. This approach is known as applied behaviour analysis in modern behaviour therapy.

The third type of learning is “cognitive behaviour modification”. Basic assumption in cognitive behavioural approach is that cognitive processes (eg: attributions, cognitions, expectations and beliefs) influence one's behaviour and affect. Irrational and faulty cognitive processes foster the development of maladaptive behaviour patterns that are best reversed directly through the modification of maladaptive cognitions. Cognitive restructuring and problem solving are common tools used by cognitive behavioural therapists to correct maladaptive cognitive processes that are believed to cause behavioural problems [6].

“Social learning theory” describes the fourth type of learning. Social learning theory attempts to integrate the two types of conditioning theories with our understanding of cognitive processes. According to Bandura (1977) learned behaviour is governed by three types of regulatory processes: paired stimulus-response events (as in respondent conditioning), environmental consequences (as in operant conditioning) and symbolic cognitive processes. The most important among these are cognitive processes, and particularly those that involve observational learning, a process in which behaviour change occurs by observing a model. For example, a child who views another child being rewarded for a particular behaviour is more likely to perform similar behaviours [7]. One of the distinguishing characteristics of social learning theory is that it

emphasizes the person's capacity for self-directed change.

Concept of behaviour therapy in medical practice is commonly used for handling behaviour problems of children and adolescents by those who handle such problems. But as I mentioned earlier, it is important for all the medical officers to have some knowledge in behaviour therapy principles and techniques not only to use in clinical practice but for the own needs of handling their children.

There are various behaviour therapy methods that can be used to improve behaviour of a child. The techniques can be categorized as attempting to produce either of two kinds of behaviour changes; (i) to strengthen, develop or maintain a good behaviour and (ii) to reduce or eliminate unacceptable behaviour.

### **Techniques to strengthen, develop or maintain behaviour**

In operant conditioning, reinforcement is the process by which behaviour is strengthened by its consequences. In the case of positive reinforcement, a reward (or reinforcer) is presented after the occurrence of the desired behaviour. The purpose of reinforcement is to increase the likelihood of that particular behaviour to be repeated.

Reinforcers can be tangible, involving material items, such as food, money, privileges, and opportunities to engage in specific activities or behaviours or removal of sanctions. Reinforcers can be intangible too, involving social or related items such as encouragement, praise, smile, appreciation etc.

Let me explain this using an example from day-to-day life. A child who finishes his homework will get as a reward to watch his favourite cartoon or to go and play cricket with friends, once he finishes doing his homework. If this is the practice, child will quickly learn that, by choosing to do the homework in time, he gets the chance to watch his favourite cartoon or to go and play cricket. Once this is learnt, the chances are that child does the homework without making a

big fuss because he thus chooses to watch cartoon or to play cricket.

How often do you reinforce the desirable behaviour? This can vary. Reinforcement that is administered immediately after each time a desired response occurs is known as *continuous reinforcement*, when reinforcement is administered intermittently it is called *intermittent reinforcement*. The rate at which reinforcement is administered varies randomly in *variable reinforcement*. In general, learning that results from intermittent schedules of reinforcement, specifically, variable reinforcement is more stable. They are more difficult to change than the behaviours acquired through continuous reinforcement. Compulsive gambling is a good example. Gambler is reinforced with money as a reward in variable interval and it is very difficult to unlearn.

Conditioned reinforcement is also used to strengthen, develop or maintain behaviour. In conditioned reinforcement, a particular stimulus - the conditioned reinforcer - signals the likelihood that reinforcement is forthcoming. Over time, the stimulus itself becomes reinforcing (it becomes conditioned) because of its association with the receipt of reinforcement. Thus parental praise is a conditioned reinforcer because it signals the likelihood that other reinforcers such as food, privileges, affection etc are forthcoming.

Tangible conditioned reinforcers that can be earned and exchanged for other reinforcers are typically referred as “*Tokens*”. A good example is certain number of red stars earned by a child for exhibiting a particular good behaviour, later can be exchanged to get a trip to beach, a cartoon CD or a toy.

Modeling represents a behavioural change technique that involves having a child observe a model engage in a particular sequence of behaviour for the purpose of producing behaviour change. This could be live, symbolic or participant. In live modeling the child observes a model engage in target behaviour *in vivo*; in symbolic modeling the child views the model on film or video. One has to be concerned about what children see in TV commercials and the

possible impact of them on behaviour of children with this modeling concept in learning.

### Techniques to reduce or eliminate behaviour

In operant conditioning *extinction* refers to the process in which reinforcement is withheld after an operant response so as to reduce the frequency of its occurrence. Undesirable behaviours usually increase in frequency for a brief period immediately after the introduction of an extinction procedure, although gradually they disappear in the absence of reinforcement. A child who screams when his demands are not met and parents responding him by giving in to his demands to stop his screams, will increase screaming initially when parents do not respond but gradually his screaming will disappear if parents continue to withhold giving in to his demands.

*Punishment* is a technique used to eliminate undesirable behaviour through the introduction of an aversive stimulus or removal of a positive stimulus after operant response. Scolding, spanking or removal of privileges (eg: watching television, going out to play) are examples of punishment, if these are presented contingent on a child's behaviour and reduce the frequency of that behaviour. Punishments usually bring about rapid decrease in the frequency of problem behaviour, thus making them particularly effective technique for the reduction of self injurious behaviours and certain disruptive behaviours. Punishment has many disadvantages, it tends to suppress behaviour temporarily rather than actually change it.

There are various techniques used to achieve behaviour modification by behaviour therapists, based on some of these basic principles of behaviour modifications. It is useful for any person to be aware of the basic principles which will be useful in day-to-day life problems as well as in clinical work.

### References

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