

## Anger Management and Control in Social and Behavioral Sciences: A Systematic Review of Literature on Biopsychosocial Model

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### Abstract

**Introduction:** Anger is considered as one of the most important and impressive emotions throughout human ontogenic and phylogenic history. Anger management is one the main domains of psychology which does not work on triggers, but on reaction to them, so that any given individual which is frequently excited with internal and external activating provocations, can restraint and control her/his anger. The aim of the present study was to systematically reviewing research literature about anger management in order to investigating and identifying varied methods of anger management and control in Persian and non-Persian sources.

**Methods:** In the present systematic review, keywords include “anger, anger management, anger control, anger restraint, anger handling, coping with anger, anger reduction, anger prevention, anger avoidance, escape from anger” was searched in “PubMed, ScienceDirect, Google Scholar, Google Patent, MagIran, SID, Proquest, Ebsco, Springer, IEEE, Kolwer, & IranDoc” search engines and according to relation to study parts, academic publishing, publishing after 1990 and Jadad system relevant sources were selected. The manuscript then, finalized by evaluation of five experts in anger domain via Delphi method.

**Results:** Systematic literature review of anger management revealed five major methods in CBT, three Islamic, and one eclectic method of anger management in clinical settings.

**Discussion and Conclusion:** There are a few outcome and/or comparative studies about the effect size of varied anger management and control methods, and most of the sources comprise books, Book chapters, and/or instructions. It appears that in future studies, it would be better to include pre-test/post-test sections to assess and evaluate the efficiency of different anger management methods in varied population sectors.

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### 1. Introduction

Anger is one of the most important and influential emotions in human life, so that played the major role throughout ontological and phylogenic history of humankind. Principle authors of anger emotion, classified it as one of the human's major emotions and suggest that such vehement emotion could be generated via various sources and have vast effects on diverse biological, psychological, social, and spiritual dimensions of human life (1). Anger is considered as one the principal emotions of human kind and like other emotions (joy, sadness, happiness, fear, disgust) natural. The central nervous system has constant pathways for anger and authors believe that anger is of oldest and basic emotions of human (2).

Anger, a pervasive emotion which has an important role in all people's life, occurs in response to other's maltreatment and ranges from a simple irritation/transient discomfort to a wild rage and wrath (3). Nevertheless, anger is an absolutely natural phenomenon and alike other human emotions, is a sign of health, well-being, and human feelings. Anger is the main expressive way of showing problem in a relation (4). Anger might be a result of intrinsic factors like irrational and illogical thoughts and beliefs, untimely expectations, and feeling of frustration, as well as extrinsic factors such as being neglected, being invaded, breach of confidence, and being insulted (5).

Anger is a complex human emotion and a frequent reaction to frustration and maltreatment. All individuals have confronted to angry situations in their lives. The shortcoming of anger is that, although being ad part of natural life, prevents individual from reaching own goals, and this the underlying reason of conflict and contradiction about anger (6). Anger management is a major domain in sociopsychological and behavioral sciences in which professionals try to help people in need by providing them with adequate information and coping skills, as well as informing them about potential risks of biopsychosocial health of people and their surrounding others/environments (7, 8). People would be angry in various ways and by different causes. What can make someone angry, would not make others angry. Because of this fact, understanding the basis of anger and its coping, controlling and management is difficult. In fact, internal and external excitatives communicate together in order to produce varied levels of anger in different individuals, even in same situations (9-11). An influential Theoretical construct of emotions suggests that anger (as a source of distress) is a result of interaction of three modalities of triggering event(s), individuals' internal/external situation/condition/states, and her/his primary and secondary appraisals about the event, capabilities and coping sources (12).

Anger management, in fact, help individual learn how to



calm down and inhibit and control negative feelings which are prodromal to anger. Anger management does not mean to neglect anger at all (13, 14). Whenever someone intend to insult, violate values, defame, abuse, assault, and oppression, and try to propagate prostitution and sins, at first they shall be treated with assertion and decisiveness. However, if they continue disobeying and such actions would be inconsequential, they deserve sacred wrath [Anfal/60]. Holly Quran describes true believers as "... and those who are with him [Muhammed] are strong against Unbelievers, (but) compassionate amongst each other" [Fath/29].

With respect to a significant increase in frequency of crimes in youth, widespread abuses in families, racial conflicts, increase of terroristic attacks, and entanglements of ordinary people in their routine interactions, anger is appeared to be the central in most problems of nowadays human life era. Nonetheless, hitherto anger disorders neither considered nor classified in any diagnostic classification system of therapeutic plans (15). The increment of reference to "anger management" keyword in scientific databases reflects the importance of such issue. However, it is not clear which method of anger control and management is the best, yet (16).

The numerous methods of anger control and management indicate the increasing importance of anger avoidance and choosing rational and wise strategies which is distancing from basic emotional processing systems of brain old structures and considered as neocortical strategies of modern social life. Alas, still there is hardly a few comparative research on effect size, preference and priority rate, as well as application of various anger management methods, especially in the form of review, systematic review and meta-analysis. Therefore, the present systematic review tries to sort and classify literature about anger control and management methods to from a requisite theoretical base for such future studies.

## 2. Method

### 2.1. Design

The present study was systematic review. Systematic review is a type of literature review which focuses on research questions. In such type of study, authors try to gather all worth-full research evidence related to the research question together, so that the result would be a synthesized combination of acknowledged, evaluated and selected evidence (17). Applicable steps of a given systematic review would be formulating research questions, setting eligibility criteria, the use of conceptual models to communicate between research questions and eligibility criteria, gathering related evidence, screening of studies and literature, the process of selection, and summarizing the findings (18).

### 2.2. Sample and procedure

The Population of the present study comprised published English and Persian studies about anger between January, 1, 2000 and June, 1, 2014. The keywords of the research included anger, anger control, anger management, anger prevention, anger inhibition, anger coping, anger reduction, escape from anger, which were searched in scientific search

engines include PubMed, Science Direct, Google Scholar, MagIran, Google Patent, SID, Proquest, Kolwer, IEEE, Springer, Ebsco, and IranDoc, and most related papers were selected. Inclusion criteria were date of publication (1/1/2000- 6/1/2014), subjective relevance, Academic source of publication, and the relevance rate to keywords according to search engines.

Jadad scoring criterion was an additional issue for experimental papers. Jadad scale which is also known as Jadad scoring method, or Oxford quality scoring system, is an independent assessment process of methodological quality of research (19).

### 2.3. Analysis

After data collection, with the use of Jadad method, the most suitable resources for the study were determined and put to the dedicated part of the work. Results were collected, derived, and classified with use of librarian study design and analyzed by content analysis as well as citation rates.

Moreover, in order to improve the validity of the results and reducing biases in final analyses, Delphi method was administered. Delphi method helps to increase the level of novelty and creativity in the phase of exploration of new ideas and mostly is addressed as a novel inspiring method. Using dialectical logic, Delphi method is to some extent alike grounded theory research design and tries to collect, classify, and manage the existing knowledge of experts (20, 21). In the present study, to find the best methods of anger management and control, the question was sent to six clinical psychologists (PhD of clinical psychologist with specialized work legislation) which were specialized in anger management and research, and asked for providing the well-known, most applicable, and most suitable methods of anger control and management. Their initial answers were summarized and unified and in the second round sent back to all experts and asked to modify if there is a need. The second round answers were integrated together and sent back to them for the third run. For the third time, experts were modified the list. These modifications were implemented in the synthetic form and was sent to the experts for the fourth time. In this phase, all the experts accepted the list and therefore, this consensual list shaped the final structure of the results structure of the study (Table 1).

### 2.4. Ethics

The most important ethical issue of the study, was respecting the copyrights of the authors of resources include papers, books, book chapters, manuscripts, dissertations, etc., which is directly done in the present study. The other issue was anonymity of the participants of Delphi method. The identity of all these experts kept anonymous. All the procedure and aims of the study were fully described to all them and they filled out written consent in which they fully understand the terms of participation. The results of Delphi method administration and the study were sent to the aforementioned experts as part of mutual partnership.

## 3. Findings

In order to study methods of anger control and management, 281 research papers and 191 book/book chapters were considered from which 74 papers and 29 book/book

chapters were chosen according to inclusion criteria of the study. After abstract review 34 full-text papers as well as 11 book/book chapters were selected. Finally, 18 papers were chosen as the main body of inspection (diagram 1).

In addition, with respect to the criteria of the systematic review, 18 papers were considered as forming the conceptual framework of the study (table 2).

According to the review of the literature related to anger, it has been indicated that most of the efficient anger management techniques with sustainable outcomes, have implemented cognitive-behavioral methods, and other therapeutic approaches at best had alike outcomes (22). Therefore, this part is devoted to cognitive-behavioral anger management approaches with high empirical support, citations, and reference. Moreover, because of the importance of spiritual attitudes towards emotion regulation in social life, especially in Muslim societies, Islamic anger management approaches are presented next. Although Islamic authors and researchers neither empirically tested, nor evaluated the comparative efficiency of Islamic anger management techniques, because they have been derived from Quran teachings and biography of the Holly prophet Muhammad (s.a.a.w.a.w), Ahlulbayt (PBUH), and Islamic clergymen, there is a great value for practical use of them in everyday life of Muslims. The final part is devoted to anger control and management in clinical and hospital environments. In such environments, clinicians and health-

care staff are inevitably confront with clients and patients which have low psychological and behavioral stability, and therefore, obliged to implement different methods to control and manage anger so that safety of both health-care staff and therapeutic environment could be provided, and there would be no harm to violent and aggressive patients/clients.

### 3.1. Cognitive-Behavioral approaches to anger

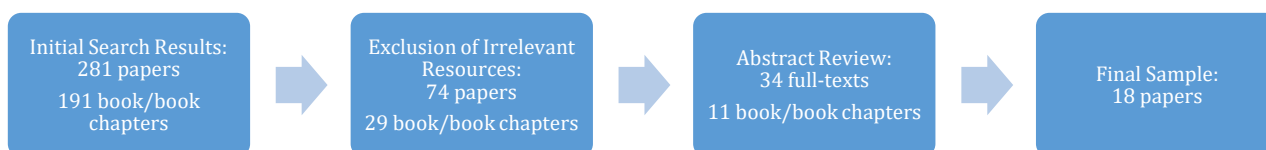
There are several cognitive-behavioral methods on anger management. The final consensus of Delphi method determined five major methods which have been discussed as follows. A brief review of the following headlines is presented in table 3.

#### 3.1.1. The model of American Psychological Association on anger management

American Psychological Association (APA) have provided a set of methods in a general package in order to anger control and management which include avoid explosive expression of feelings, using relaxation techniques, cognitive reconstruction, improvement of communication skills, change the surrounding environment, sense of humor, choose the appropriate time to do provoking activities, avoid triggering factors of anger, find substitute/alternative ways to solve occurred problems, and use correct strategies of problem solving. These are general strategies and APA has suggested to seek for professional consultation and help in frequent moderate to serious situations of losing temper (33).

**Table 1.** Delphi method procedure to find the most suitable framework of the study

Stages of the procedure	Desirable structure of the frame work of the study
First run	Academic method of anger management, psychological methods of anger management, Islamic methods of anger management, social methods of anger management, inpatient anger management, emergency ward anger management, hospital anger management, crisis anger management, crisis intervention, crime prevention, hostile behavior reduction, prison anger management, CBT anger management, behavioral anger management, military anger management, violence reduction, crowd rage control, sacred wrath, religious anger coping, spiritual methods of anger management, anger management in sports, cinema therapy, psychodrama, neuropsychotherapy of anger, method of Socrates, bibliotherapy, push-up button, executive control reinforcement.
Second run	Psychosocial anger management methods (American Psychological Association, crisis intervention, prison anger management, CBT anger management, Novaco’s anger management method, behavioral anger management.), religious anger management methods (spiritual methods of anger management, Islamic methods of anger management), Hospital and clinical anger management methods (hospital anger management, emergency ward anger management, inpatient anger management, outpatient clinical anger management).
Third run	CBT methods of anger management (American Psychological Association, Anger management based on cognitive reappraisal, Rational anger management, Williams and Williams’ method of anger management, Novaco’s anger management method), Islamic anger management methods (Four-steps Method of wrath restrain, Islamic techniques of anger coping, Scientific and practical method of treatment of wrath), clinical anger management methods.



**Diagram 1.** Sampling process of the study

**Table 2.** The papers which formed the conceptual framework

Authors	Year	Journal	Type of study	Study groups	Sample size	Analysis method	Intervention type
Benavidez, et al. (7)	2013	Accident Analysis & Prevention	survey	4	300	correlation Analysis of variance	-
Kumtonkun, et al. (9)	2013	Journal of Retailing	correlation	3	140	correlation Analysis of variance	-
Liang, et al. (10)	2013	European Journal of Pharmacology	experimental	2	37	correlation Analysis of variance	Experimental intervention
Reidy, et al. (22)	2013	Personality and Individual Differences	quasi-experimental	2	35	correlation Analysis of variance	Experimental intervention
Goldstein, et al. (23)	2013	Cognitive and Behavioral Practice	quasi-experimental	2	38	analysis of variance	Experimental intervention
Williams, et al. (13)	2012	Aggression and Violent Behavior	review	-	-	-	-
Piquero, et al. (14)	2012	Aggression and Violent Behavior	experimental	2	40	correlation Analysis of variance	Experimental intervention
Storch, et al. (24)	2012	Journal of the American Academy of Child & Adolescent Psychiatry	survey	1	247	correlation	-
Reidy, et al. (11)	2011	Aggression and Violent Behavior	review	-	-	-	-
Siewert, et al. (16)	2011	Personality and Individual Differences	correlation	1	370	Correlation regression	-
Mike, et al. (25)	2011	Annual Bulletin of Academic Management Review	correlation	1	269	correlation Analysis of variance	-
Dhumad, et al. (26)	2011	Psychiatric Bulletin	survey	1	407	correlation Analysis of variance	-
Pieters, et al. (27)	2010	Psychiatric Bulletin	survey	1	283	correlation Analysis of variance	-
Naeem, et al. (28)	2009	The Cognitive Behaviour Therapist	experimental	2	24	correlation Analysis of variance	Experimental intervention
Marangell, (29)	2009	Bipolar Disorders	longitudinal	1	1556	correlation Analysis of variance Regression T-test	-
McNiel, et al. (30)	2008	American Journal of Psychology	retrospective	2	169	correlation Analysis of variance regression	-
Glomb, (31)	2005	Journal of Occupational Health Psychology	survey	3	481	correlation Analysis of variance	-
Novaco, et al. (32)	2002	Journal of Traumatic Stress,	survey	1	530	correlation Analysis of variance	-

### 3.1.2. Anger management model of Williams and Williams

Williams and Williams (34) have tried to represent the mutual impacts of psychology and medicine in their approach to anger. In this approach, using the scientific evidence which relate anger and hostility to coronary heart diseases (CHDs), authors have suggested practical and approved strategies to reduce anger and improve interpersonal relationships. These strategies comprise self-argumentation; try to stop angry thoughts, feelings, and states; veering angry thoughts; daily meditation; avoid nervous provocation; verbal expression of feelings in the time of anger; bread pets at home; active listening; try to trust others; take part in social and charity activities; cultivate the trait empathy; practice patience; cultivate the trait forgiveness; find an insider (a confident one which individual can tell her/him secrets and in-depth problems); extend one's sense of humor; frequent engagement in

religious/spiritual activities and rituals; and more thanatopsis (think that today is the last day of life).

### 3.1.3. Anger management according to cognitive reappraisal (Klienke's Method)

Kleinke (35) have proposed an efficient method of anger management according to the interactional model of stress (cognitive-transactional-process approach) and coping concept which have been proposed earlier (36). In Kleinke's method of anger management, individual shall reach to a relative awareness and acknowledgement about coping skills, cognitive appraisal system, and her/his anger, at first. Therefore, in the beginning, after explanation of cognitive-transactional-process approach and an introduction to anger phenomenon, following issues are inspected and clients are asked following questions and write down their answers:

1. Who has caused the anger in the individual?
2. What has caused the anger in the individual?
3. Why people get angry?
4. What are others' reaction to anger?

5. What is angry person’s reaction to her/his anger?  
Summarizing aforementioned questions, generally clarify for client that:

1. Anger is a prevalent and frequent emotion that usually been experienced when friends, family members, and surroundings could not meet one’s expectations and demands.
2. Most of the time, the motive of anger is achieving expectations and demands.
3. Others’ reaction to one’s angry actions is often

negative.

4. Although, one can feel satisfied after anger expression, angry and aggressive individual cannot reach her/his aims in the long run.

In next step, before starting the anger management lessons, Individual would assess and evaluate her/his anger level with anger assessment instruments.

Third step comprise learning 12 anger coping skills. These skills are firstly taught by therapist to clients and then, they practice in group and as teamwork.

**Table 3.** Cognitive-behavioral approaches to anger management

Methods of anger control and management	Hints
American Psychological Association	<ol style="list-style-type: none"> <li>1. avoid explosive expression of feelings</li> <li>2. using relaxation techniques</li> <li>3. cognitive reconstruction</li> <li>4. improvement of communication skills</li> <li>5. change the surrounding environment</li> <li>6. sense of humor</li> <li>7. choose the appropriate time to do provoking activities</li> <li>8. avoid triggering factors of anger</li> <li>9. find substitute/alternative ways to solve occurred problems</li> <li>10. use correct strategies of problem solving</li> </ol>
Williams and Williams’ method of anger management	<ol style="list-style-type: none"> <li>1. self-argumentation</li> <li>2. stop angry thoughts, feelings, &amp; states</li> <li>3. veering angry thoughts</li> <li>4. meditation</li> <li>5. avoid nervous provocation</li> <li>6. verbal expression of feelings in the time of anger</li> <li>7. bread pets</li> <li>8. active listening</li> <li>9. trust others</li> <li>10. social and charity activities</li> <li>11. empathy</li> <li>12. patience</li> <li>13. forgiveness</li> <li>14. find an insider</li> <li>15. sense of humor</li> <li>16. religious/spiritual engagement</li> <li>17. thanatopsis: Think that today is the last day of life</li> </ol>
Anger management based on cognitive reappraisal (Klienke)	<ol style="list-style-type: none"> <li>1. Understanding coping skills, cognitive reappraisal system and one’s anger</li> <li>2. Evaluate and assess one’s anger rate at the beginning of the course by anger assessment instruments.</li> <li>3. Learning 12 anger-coping skills include taking coping approach and emotional creativity, evaluation of rationality of primary appraisals, relaxation, stress inoculation, anger evacuation by physical activity and then, using problem solving process, believing oneself as the coping individual, overcoming passivity, acknowledgement of deficiencies and limits of aggression, acknowledgement of efficiencies of assertiveness, learning and implementation of assertiveness skills, try to be a good negotiator, understanding the value of forgiveness.</li> </ol>
Novaco’s anger management method	<ol style="list-style-type: none"> <li>1. Stage of cognitive preparedness: Teaching individuals about anger, causes, their effects, awareness to anger emotion, its difference from other emotions, differences between anger and aggression, appropriate and inappropriate anger, relation between anger and other emotions, explanation of monitoring concept as the major component in therapy.</li> <li>2. The stage of skills acquisition: Learning coping strategies include internal self-talks, resting methods, and assertiveness skills. Teaching cognitive-behavioral adaptation, paying attention to stimulants and triggering signals of anger, deciding on choosing the way of intervention. Explanation of cognitive, arousal, and behavioral factors of anger provocation.</li> <li>3. The stage of applied education: according to the progress of teaching, situations which are known by individual as anger provocative, identified. Using role playing and practicing cognitive tasks to rehearse and implementation of skills in real life.</li> </ol>
Rational anger management	<ol style="list-style-type: none"> <li>1. Primary evaluation</li> <li>2. Introducing new ways to client to view anger</li> <li>3. Teaching cognitive, and physiological coping skills, as well as additional coping skills if needed.</li> <li>4. Facilitation of practice by gradual exposure</li> <li>5. Preparation of client to terminate the therapeutic process</li> </ol>

These anger coping skills include taking coping approach and emotional creativity, evaluation of rationality of primary appraisals, relaxation, stress inoculation, anger evacuation by physical activity and then, using problem solving process, believing oneself as the coping individual, overcoming passivity, acknowledgement of deficiencies and limits of aggression, acknowledgement of efficiencies of assertiveness, learning and implementation of assertiveness skills, try to be a good negotiator, understanding the value of forgiveness (35).

#### 3.1.4. Novaco's Anger Management Method

Novaco's Anger Management Method is a structured therapeutic method to reinforce self-regulation and angry behaviors/actions. Clients are taught in this method to beware and on alert about their triggering factor and signs of anger. Anger management tries to reduce anger expression, intensity, duration and rate in three key domains (32):

1. Cognitive reconstruction of attentional focus, thinking styles, fixated ways of perception of annoying events and rumination.
2. Global tension reduction, provocation, and impulsive reactions by controlled breathing techniques, in-depth muscular relaxation, and palliative imagination.
3. Learning behavioral coping (e.g., strategic withdrawal, assertiveness with respect, and tactfulness) to manage provocative situations in a constructive manner and encourage problem-solving

Novaco's anger management program has three steps of cognitive preparedness, skills acquisition, and application of taught lessons (37).

#### 3.1.5. Rational Anger Management

Anger is of the most difficult emotions to change. Cognitive-behavioral therapy (CBT), which is based on human underlying belief system that generating malfunctioning behaviors and emotions, is capable of helping people to transfer from hostile and destructive anger to a more constructive type of anger and keep this state in

long term. Authors have combined key theories of CBT include rational-emotive therapy of Ellis, cognitive therapy of Aaron Beck and Novaco's anger management method, to present a popular and famous style of anger management (38). The reason of inclusiveness of Rational Anger management, in addition to respect to BioPsychoSocioSpiritual dimensions, is taking advantage of all present considerable theories of CBT to omnidirectionally formulate a program in control and management of anger (23, 25). According to Delphi method consensus, it appeared that all referees considered *Rational Anger Management* as the most comprehensive, applied, and complete method of anger management. *Rational Anger Management* has five stages of primary estimation, announcement of new ways of viewing anger to client, teaching cognitive, and physiological coping skills as well as additional ones if needed, facilitation of practice by gradual exposure, preparation of client to terminate the therapeutic process (table 4).

#### 3.2. Islamic anger management methods

Dignitaries of Islamic ethics invite human to moderation in anger according to religious teachings and rationale, and acknowledge this moderation as a source of most of ethical virtue, whereas outflowing it is known as ethical rascality (39).

In the topics of Islamic ethics, anger control and management is called *kazm-e qeyz* (wrath restraining) and Holly Quran considered it as a trait of pioussness. Kazm in Arabic terminology means capping a goatskin which is full of water, and as irony addresses those who prevent rage and wrath (40). This part is devoted to most outstanding methods of anger control and management (*kazm-e qeyz*) in Islam which are based upon major Islamic sources and canon laws. It shall be noted that these methods are mainly in the form of advisory and still there is no published research on their efficiency. A brief review of the following headlines is presented in table 5; for a details, see (41).

**Table 4.** Steps in Rational Anger Management

	Stage
Primary estimation	Client's motivation to change
	Historical factors
	Current causing factors      activating events and outcomes (A-C notepad) Beliefs (A-B-C notepad)
Announcement of new ways of viewing anger to client	Differences between feeling and behaving Reviewing anger in the form of outcome rather than ethical preaching Self-analysis/ thought record
Teaching cognitive coping skills	Debate
	Benefits estimation
	Catastrophe scale
Teaching physiological coping skills	Deep muscular relaxation/stress management
	Anxiety management
	Substance and/or drug use regulation (cigarette, palliative pills, alcohol, cannabis, ...)
Teaching additional skills if needed	Delay
	Establishing communication and assertiveness
	Problem-solving
Facilitation of practice by gradual exposure	Making hierarchy
	Start with imaginary exposure
	When client is ready, continuing in vivo in therapeutic setting
Preparation of client to terminate the therapeutic process	Progress evaluation
	Teaching for relapse management skills

Table 5.

Methods of anger control and management	Hints
Four-steps Method of wrath restrain	<ol style="list-style-type: none"> <li>1. Neither consider nor care about anger and do not express it fast and hasty</li> <li>2. For God sake, forgive others' lapses and ignore those lapses at all.</li> <li>3. Responding to bad deed by good deed, quit situation, and pray for the offender</li> <li>4. These stages would result in reappraisal in anger and reducing it. One shall repeat these to calm down her/himself. However, if there would be a matter of sacred wrath, according to Anfal/60, one should do her/his religious duty to save humankind.</li> </ol>
Scientific and practical method of treatment of wrath	<p>A. Scientific way of wrath treatment Introspection; thinking about hadiths about forgiveness, patience and tolerance; thinking about God's tribulation for showing anger and wrath and knowing that God is the most capable and can show greater wrath than her/him; thinking about the consequences of revenge and animosity; knowing that most wrath provocative factors are based on ilusories; thinking about her/his cruel inside during anger and aggression and comparing it to the calm state of patience and tolerance and then, chose between them.</p> <p>B. Practical way of Wrath management Refuge to God and invoke him by saying the noble phrase "taking refuge in Allah from accursed Satan (اعوذ بالله (من الشيطان الرجيم)"; thinking about the biography of prophets, saints, and pious figures, as well as thinking about verses of Holly Quran in which wrath is disregarded and prevent its outcomes; changing physical posture; drinking cold water, washing hand and face with cold water, perform ablution, and dip; keep silence; thinking about the benefits of wrath control; changing the place; avoiding angry and aggressive individuals; eliminating contexts of anger (hunger, thirst, fatigue, sleeplessness, etc.); reinforcing the belief to act of God; being in a superior position than others, one shall always remember the absolute power of God beyond everything and everyone and do not that her/his anger toward inferior others may result in God's wrath against her/himself.</p>
Islamic techniques of anger coping	<ol style="list-style-type: none"> <li>1. resolve the causes and motives of anger</li> <li>2. compare the deficiencies of anger with benefits of tolerance</li> <li>3. attention to the power of God's punishment</li> <li>4. avoiding angry and aggressive individuals</li> <li>5. silence and changing the position</li> <li>6. inhibition of stimulants</li> <li>7. Before initiation of an action, thinking about its diverse consequences to protect her/himself from anger outcomes</li> <li>8. Remembering that wrath is a sickness of heart and rationale deficiency, and its cause is weakness of proprium; attribution of courage and self-esteem to wrath is a result of absolute ignorance.</li> <li>9. Remembering that dominance and power of God to human is beyond and superior of power of human to a weak person whom the target of anger.</li> <li>10. reading biography of patient and tolerant people as well as their action/behavior styles</li> <li>11. thinking about angry individual's face</li> <li>12. forgiveness</li> <li>13. behavioral methods</li> <li>14. friendly relationships and good-temperedness</li> </ol>

### 3.2.1. Four-steps Method of wrath restrain

There are several ways of anger control and management and the main suggestion is that whenever provocation of anger occurs, human shall resist so that the angry person would not reach an opportunity to act out, and if anger provoked, a complex of patience, knowledge, wisdom, and action shall be used to extinguish it (42).

The first method of Islamic anger management, Islamic pious figures have controlled and managed their anger in their social relations by using a for-steps method (43):

1. Neither consider nor care about anger and do not express it fast and hasty
2. For God sake, forgive others' lapses and ignore those lapses at all.
3. Responding to bad deed by good deed, quit situation, and pray for the offender
4. These stages would result in reappraisal in anger and reducing it. One shall repeat these to calm down her/himself. However, if there would be a matter of sacred wrath, according to Anfal/60m one should do her/his religious duty to save humankind.

### 3.2.2. Scientific and practical method of treatment of wrath

Anger, wrath, and rage are considered as mental illness and a dangerous harmful carnal pain which not only impairs the angry individual, but also hurts others. Severe wrath leads angry individual commit crime thoughtlessly and undeterminedly, because wrath overflow make her/him crazy. It is evident that in the term of derangement, individual loses her/his volition of thinking and rationale and commits involuntary displeasing actions (44). Therefore, many authors of Islamic ethics view anger as an illness and formulated a program, based on Islamic teachings and biography of Islam prophet and religious figures, to control and manage wrath in two scientific and practical sections (45):

Scientific methods of anger management and wrath control comprise introspection; thinking about hadiths about forgiveness, patience and tolerance; thinking about God's tribulation for showing anger and wrath and knowing that God is the most capable and can show greater wrath than her/him; thinking about the consequences of revenge and

animosity; knowing that most wrath provocative factors are based on illusions; thinking about her/his cruel inside during anger and aggression and comparing it to the calm state of patience and tolerance and then, chose between them.

The practical method of anger management include Refuge to God and invoke him by saying the noble phrase “taking refuge in Allah from accursed Satan (اعوذ بالله من الشيطان الرجيم)”; thinking about the biography of prophets, saints, and pious figures, as well as thinking about verses of Holy Quran in which wrath is disregarded and prevent its outcomes; changing physical posture (If running, change to walk; if walking, stop; if standing, sit down; if sitting, lie, and if lying, go to sleep); drinking cold water, washing hand and face with cold water, perform ablution, and dip; keep silence; thinking about the benefits of wrath control; changing the place; avoiding angry and aggressive individuals; eliminating contexts of anger (hunger, thirst, fatigue, sleeplessness, etc.); reinforcing the belief to act of God; being in a superior position than others, one shall always remember the absolute power of God beyond everything and everyone and do not that her/his anger toward inferior others may result in God’s wrath against her/himself.

### 3.2.3. Islamic techniques of anger coping

In a recent innovative study, authors have concluded, according to Islamic literature, that Islamic ethics scholars have advised two scientific and practical ways: Scientific way, is think and foresight in literature and proofs in which the deficiency of anger and efficacy of forgiveness, patience and tolerance are discusses, and practical way have put emphasis on refusal of proprium from anger at the very first point of the beginning. Human, before ascending the anger, shall deter her/himself in any way (leaving the place, changing the position, invoking the God’s name. etc.), and/or occupy her/himself to another activity. These authors have classified main Islamic strategies of anger management and control according to Holly Quran teachings and biography of Prophet and saints under the name of “Islamic techniques of anger coping” (46):

1. resolve the causes and motives of anger
2. compare the deficiencies of anger with benefits of tolerance
3. attention to the power of God’s punishment
4. avoiding angry and aggressive individuals
5. silence and changing the position
6. inhibition of stimulants
7. Before initiation of an action, thinking about its diverse consequences to protect her/himself from anger outcomes
8. Remembering that wrath is a sickness of heart and rationale deficiency, and its cause is weakness of proprium; attribution of courage and self-esteem to wrath is a result of absolute ignorance.
9. Remembering that dominance and power of God to human is beyond and superior of power of human to a weak person whom the target of anger.
10. reading biography of patient and tolerant people as well as their action/behavior styles
11. thinking about angry individual’s face

12. forgiveness

13. behavioral methods

14. friendly relationships and good-temperedness

### 3.3. Anger control and management in Clinical and therapeutic settings

It could be claimed that clinical settings, especially those related to psychiatric issues, are the most probable places of outburst of anger and aggressive behavior/actions from clients and inpatients toward healthcare staff. Therefore, the best way to deduct from the occurrence rate of angry/aggressive/hostile behavior/actions, is first to announce and educate healthcare staff with such situation and second prevention and inhibition of preparation of the occurrence of angry/aggressive/hostile events (47).

During mental status examination, therapeutic sessions, and assessment/evaluation process, aside from the environment in which such process is performed, the atmosphere shall be safe and without any harm. The adequate healthcare staff (therapists, assistants, nurses, social workers, and security personnel) shall be present the nearby available place. Specific responsibilities during anger outburst (specially refraining clients, patients, and/or their accompanying individuals) shall be clearly specified and all the present healthcare staff at the division shall follow. Therapists, healthcare staff, and especially supervisors of emergency ward shall remember that aggressive behavior/actions are neither forbore nor tolerated at all. Expected behavioral criteria for staff, clients, patients, and their accompanying people shall be at sight in the beginning of entrance at ward. It shall be explained and clarified for all healthcare staff that patients/clients with psychological/physical problems are vulnerable and their mentality, various expectations which are often unrealistic and their disorders directly cause their current angry/aggressive states (48). General strategy for therapists to prevent anger and aggressive behavior/actions include self-protection, harm-prevention, investigation of medical and psychological disorders, and estimation of the probability of psychotic episodes (49). Therapists, especially therapists of emergency ward shall keep in mind that the primary aim in coping with angry patients and individuals is trying to increase their self-esteem, trust, and safety feeling in order to restraint their anger (26). It shall be noted that in such situations, most of angry clients, like suicide patients need to become bedridden and generally, agree to become bedridden, because of the feeling of deliverance (30).

In order to implement medication in therapeutic and hospital setting for people who suffer from intermittent explosive disorder, generally psychoactive drugs are used. Periodical attacks of anger and aggressive behavior/actions respond to drugs such as haloperidol, beta blockers, carbamazepine, and carbonate lithium (49, 50).

Physical refrain generally is only applied by emergency/psychiatry ward staff. This method is only implemented when the patient is dangerous to her/himself or others to the degree that would consider as a serious threat and/or no other way can control her/him. In such situation, the patient could be prescribed temporarily and if there is no possibility to administer medication, physical refrain could be prolonged (51).



#### 4. Discussion and Conclusion

In general, methods of anger management, especially CBT methods, because of their scholastic method and implementation of rational and logical ways to prove irrational beliefs to individuals and suggesting to substitute them with rational, applied, and adaptive beliefs, use pre/post-tests to assess and evaluate anger rate before and after the therapeutic interventions. These assessment/evaluation instruments of pre/post-tests are varied according to the method, author's suggestion, and/or therapeutic approach of intervention. Novaco (52), according to his special theoretical model in anger treatment which focuses on cognitive, arousal, and behavioral factors and implemented in three stages of cognitive preparedness, skills acquisition, and applied training, designed NAS-PI by which anger construct could be assessed before and after administration of therapeutic protocol and as such, evaluate progress rate and effect size of the anger management method. Except this, in other therapeutic protocols of anger management, authors have not devised any specific instruments and just used available anger assessment instruments. It appears that it would be a sound suggestion to authors to design and devise an appropriate instrument of anger assessment which fits best to their theoretical construct and administer it as pre/post-test to accurately evaluate the efficacy of their anger management method [for more details, see (53)].

There is a little evidence about the effect size and efficacy rate of anger management methods. Because, in diverse studies anger construct has been assumed synonymous to aggression, hostility, impulsivity, violence, etc., and hence, instruments of evaluating such constructs has been implemented. Therefore, the validity of the results are questionable and as such, their results could not be used as empirical evidence of efficiency of anger management methods [for more details, see (6)].

In addition, many of studies on cognitive-behavioral anger management methods, in their methodology just used the term "cognitive-behavioral anger management technique" without any further explanation and description of administered interventional method. Furthermore, most parts of the literature on anger management was in the form of book(chapter) without any statistical/empirical evidence in the form of research paper, or just the author has addressed her/his past studies and her/his evaluations of the method (self-citation). Moreover, there is neither a meta-analysis nor comparative study on various anger management techniques on which their efficacy and concurrent validity could be investigated; the present studies are just (quasi-)experimental and have compared the results with control/wait list group, and even pre/post-test without any control/wait list group as a baseline. Efficacy of any given intervention is a statistical principle in significance of the comparison of results of pre- and post-test result. However, the extent and degree of efficacy and effect size as well as the durability of such effects are not shown in the studies, yet. It shall be noted that all such issues are just applicable to the period of the study and the results could not be generalized to the successive studies which has been published afterwards.

Individual differences is another domain of concern in psychotherapies towards any given issue in therapeutic sessions. An interesting focus of attention in recent studies is gender differences in emotion expression. Some studies have found that female and male reactions to the same emotion-provoking stimuli are not the same. In a study, findings revealed that women intrinsically tend to percept happiness from ambiguous faces in social situations, whereas men tend to percept anger in alike conditions (54). In another study, authors have found that the combination of "anger expression X gender" in men would result in negative outcomes in depression and general activities (55). In contrary, in an international study with a sample size of 9067 participants, it has been revealed that female participants expressed more affection, fear, sadness, joy, and anger than male participants (56). There has been found no studies yet which have pointed to gender/individual differences in anger management techniques.

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