

Research Findings, Limitations, and Orientations in the Field of Veterans' Mental Health

Ahmadi Kh.^{1*}PhD, Habibi M.² PhD, Ahmadizadeh M.J.¹ PhD, Shahi R.³ PhD
khoshkam M.⁴ PhD, Moradi M.¹ MSc, Akhavan Rad Sh.⁵ MSc

¹*Behavioral Sciences Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran*

²*Shahid Beheshti University, G. C., Tehran, Iran*

³*Tabriz University, Tabriz, Iran*

⁴*Isfahan University, Isfahan, Iran*

⁵*Sciences and Culture University, Tehran, Iran*

Abstract

Aims: Different studies have been conducted in the field of veterans' mental health. The purpose of the present study was to present a review of these studies in order to clarify the existing research limitations for developing a research matrix and specify future orientations.

Methods: The present study has investigated the existing databases on research conducted in the field of veterans' mental health including research projects, papers and abstracts presented at seminars and conferences using content analysis and review study. The study population consisted of archived sources that were gathered and classified by using review protocol. They were analyzed using Marshal and Rasman Model.

Results: Results showed that among implemented surveys, 35% were on mental disorders, 21% on psychological health aspects, 17% on family and children, 10% on cure and medical interventions, 8% on life quality, and 4% on veterans' welfare problems. In order to do a qualitative analysis, results obtained in the reviewed studies were classified in the following nine dimensions: life quality, their family, occupation, social issues, drug abuse, life style, mental disorders, medication, and welfare problems. In general, advantages and disadvantages of previous surveys in the last 3 decades were classified, and a research matrix was suggested accordingly in the field of veterans' mental health and their family.

Conclusion: The findings of the present study can help develop a road map for all those involved research and medication authorities in the field of veterans and their families' mental health. They can also help illuminate the policy making strategies for future research in the form of descriptive-analytic evaluation of findings, dilemmas, and research orientations.

Key words: Mental Health, Veteran, Systematic Review, Family, Road Map, Qualitative Study, Research Matrix, Research Orientation

Introduction

Since the spread of mental disorders among veterans has always been a concern, a separate line of research is devoted to research on veteran's mental health all over the world. For instance, research shows that almost 40 percent of US military forces in Afghanistan and Iraq have psychiatric and psychological problems [1-3]. The majority of them have reported not receiving an appropriate medical care during and after their service [4,5]. Understanding veterans with psychological damage as the result of war and being able to help them need psychological and psychiatric intervention in order to improve their health conditions [6]. US soldiers in Iraq and Afghanistan have been reported to suffer from different mental disorders: after one month, 4.2% experienced post-traumatic stress and 4.4% experienced depression due to post-traumatic stress disorder, bipolar disorder, depression, and drug and alcohol abuse [7-11]; after 4 months, 112.2% experienced post-traumatic stress disorder (PTSD) and 8.9% experienced depression; after 7 months, 12% experienced PTSD and 9.3% experienced depression [10]. A higher level of physical disorders was a statistically significant predictor of PTSD and depression. It was also shown that the suicide rate and psychological disorders were higher in soldiers suffering from PTSD in comparison with other militants [12]. Moreover, it was observed that 45% of soldiers seeking medical aid had psychiatric disorders, with PTSD being the most common one [13].

Iranian veterans have been suffering from a number of disorders too. Mental damage, low sex drive, hostility, and psychiatric symptoms are among those [14, 15]. Studies carried out on war veterans in Iran who have been diagnosed with PTSD show that they

are clinically characterized by experiencing a stress much beyond their tolerance threshold in the form of remembering unpleasant old memories as if they were being repeated, severe instability when facing a situation with some similarities with their unpleasant memories, indifference toward life affairs, feeling alienation in contact with others, alzheimer, insomnia, boredom, noise sensitivity, agitation, lower job efficacy, headache, absent-mindedness, anxiety, depression, loss of appetite, fatigue, anger, vertigo, loneliness, being reserved, lack of concentration, tremor in hands, aggression, interpersonal conflicts, lack of sympathy from society, physical problems, hesitation in decision making, etc [16-19].

Among veterans, 23% are suffering from serious depression, 19% from post-traumatic stress disorder, 13% from mania, 18% from dysthymic disorder, 4% from anxiety hysteria, 2% from schizophrenia, 1.5% from schizoaffective, and 4% from phobia [20]. Other mental disorders in veterans included 2% malingering, 2.5% personality disorders, 6% dependence on narcotic drugs, diazepam, and codeine, and 78.5% dependence on nicotine. Other side effects of post-traumatic stress disorders are aggression, suicide, and murder [20,21]. The type and the intensity of the disorders and problems veterans suffer from can also include being reserved and seeking seclusion, depression and boredom, anxiety, feeling guilt and humility, feeling alienation with society, low appetite, and social ostracism. In another study veterans were reported to complain about their physical (35.6%) and post-injury complications (44.2%). Depression with anxiety (13.5%), reactional depression (11.5%), and emotional disorders (9.6%) were other problems observed [21]. Depression in veterans was 71% while it was 36% in ordinary people [22].

The psychological harms resulted from war are long term. Even 20 years after the Iran-Iraq war was over, our knowledge of the extent, intensity, and the side effects of such disorders in veterans is not adequate. Veterans are among the vulnerable groups in the society, therefore, the study and investigation of their mental health is of high significance. Numerous studies have been conducted on the veterans' mental health in the past 3 decades, and it is still going on. These studies were sponsored or done by most universities, research centers, and organizations especially Veteran Affairs Organization in Iran. However, a review and analysis of the previous studies and scheming the future path accordingly is a necessity which has not been met yet. The present study was an attempt to fill the gap. Despite the numerous studies carried out and the available and sometimes contradictory findings, there has been no cohesive approach to the topic and a future research scheme. As such, doing a content analysis of the previous research seems necessary. A content analysis is a research technique which helps researchers obtain a synthesis of the contrary and non-contrary results, and identify the intervening variables. It helps researchers to come up with results which are more reliable than the results of individual studies. The main reason for using content analysis in the present study is to examine the contradictions in findings, interpret them and scheme a future path for the research on veteran's mental health in Iran. In fact, the present study attempts to evaluate the research done in the field of veterans' mental health over the last 3 decades in Iran.

Methods

The present study was a content analysis of the previous research in the field of veterans' mental health. Since it was an analytical-qualitative study, instead of participants, the archived sources on the veteran's mental

health were used [23]. These sources included the research proposals and theses which were directly collected from universities and research centers including universities in Tehran such as Baqiyatallah University of Medical Sciences, Imam Hosein University, Shiraz University, Isfahan University, Ahvaz University, Veteran Affairs Medical Research Center, Basij Research Center, and other research centers at Baqiyatallah University of Medical Sciences. Journal articles and papers presented in national and international conferences were collected through IRANMEDEX, Magiran, Irandoc, and SID websites and other possible sources. The keywords searched in electronic databases included the use of the word 'veteran' plus 'mental health,' 'mental welfare,' 'life quality,' 'family,' 'job,' 'social problems,' 'life skills,' 'mental disorders,' 'medication,' and 'welfare.'

All the documents found were used in the study without sampling. The first step involved the examination of the documents published over the last 30 years. In order to gather information, a protocol was designed based on APA style report format. It was checked with 8 experts in research methodology and was then piloted. The protocol consisted of the following elements: title, the place where the proposal was approved and implemented, administrators, date, journal/publisher, objectives, method, study population, sample size, sampling method, data collection apparatus, data collection techniques, statistical tests, main variables, findings, suggestions for further research, limitations, conclusion, and data collection date. In addition, in order to achieve the research objectives set for the present study, the following steps were taken; defining categories according to research objectives, classifying items according to a classification system (to avoid any bias in results, classifications and scorings were done by 2 different researchers), extending the scope of categories

to be inclusive enough for all research questions, defining unit or units of analysis based on research questions, evaluating the credibility of the statistical analyses in studies, determining the validity of the studies using all archived documents available to the researchers, having a final analysis of the findings of the previous studies, and preparing the final report [24,25]. The credibility of the previous studies was determined by judges using an evaluation form with Likert scale items. The evaluation criteria included the variety of the study type, sample size efficiency, data collection tool accuracy, the accuracy of the data analysis statistical procedure, and the scientific credibility of the findings. On the whole, 21 studies were left out of the analysis due to lack of or low credibility.

As in qualitative research, data collection, analysis, and interpretation were done almost simultaneously. As such, using the assumptions and literature available on the topic, the categories were determined first, and then the data was coded and analyzed. The collected data were analyzed based on Marshal and Rossman's [26] model. The procedure proceeded as: 1) organizing data, 2) data classification, 3) answering the questions, 4) proposing a model, and 5) preparing the report.

Results

The results showed that from among the 257 research studies done on veterans' mental health, 42% were journal articles, 39% were research reports, and 19% were the abstract presented in conferences and seminars. Regarding the date of the studies, it was observed that the majority of studies were done in 2000s (72.76%). This was almost 2.5 times more than the studies done in the 80s and the 90s altogether. Considering the studies in the 2000s, 20.43% of the studies were carried out in 2008. This shows that the number of studies on veterans and their families' mental health has been increasing over time. Most of

the studies done on this subject were of surveys and descriptive studies to the extent that this type was the only type in the studies of the 1980s. Gradually, more varied research methods appeared in the studies carried out to the extent that almost all types of research methods can be seen in studies of the 2000s.

35% of the research studies carried out in this regard were on mental disorders, 21% were on veterans' psychological health, 17% were on their families, 10% were on medical interventions, 8% on life quality, and 4% on issues related to veterans' welfare. For a better qualitative analysis, research findings were classified in the 9 categories as below:

Life Quality: There was no significant relationship between veterans' age and quality of life. There was a significant difference between physically-injured veterans and chemically-injured veterans in their sleeping difficulties. The higher an educational degree they have, the better life quality they enjoy. The higher an educational degree their partners have, the lower life quality they have. There is no significant difference in the life quality of physically-injured veterans and chemically-injured veterans. An increase in veterans' skin problems lowers their life quality. Veterans' financial and economical state does not affect their life quality. As the intensity of injuries increases, the life quality decreases. Conflict solving instructions can help improve their life quality. The more time passes from their injury, the lower life quality they have. In general, veterans' life quality is lower than the rest of society. Doing sports can help increase their life quality. Smoking decreases life quality in them. There was no relationship between having a prosthesis and their life quality. Veterans' partners enjoy a better life quality in comparison with veterans themselves. Teaching muscular-relaxing techniques can help increase the life quality in veteran's wives.

Family: As veterans' economy gets better, abortion, LBW, and premature delivery decreases in their families. There was no significant relationship between veterans' sexual life satisfaction and the intensity of spinal damage. Among veterans' children, anxiety is the most and phobia is the least common disorder. The type of chemical gas inhaled and the type and intensity of injuries have no significant relationship with veterans' fertility. There is a significant difference in the intensity of depression among male veterans with eyesight problems, chemically-injured veterans and veterans with neurological and psychological disorders. Regarding mental health and sexual life satisfaction in veterans' wives, there was no significant difference between veterans with post-traumatic stress disorder and those suffering from chemical injuries. No relationship was observed between veterans' educational degree and job incapacity and their wives' mental health, but the relationship between veterans' length of injury and their wives' mental health was significant. Veterans' wives showed no significant difference in mental health and sexual life satisfaction in the comparison of chemically-injured veterans and veterans with neurological and psychological disorders. There was a direct and significant relationship between veterans' faith and family bond, and between family bond and self-esteem. In the comparison between veterans' wives in their anxiety, depression, aggression, phobia, sensitivity in interpersonal relations, and obsession. It was observed that these were higher in the case of physically injured veteran group than veterans with neurological and psychological disorders; however, this difference was not significant in their paranoidism, psychosis, and physical problem complaints. Using treatment programs with an Adler approach can increase sexual life satisfaction and decrease the related disorders. There was no significant relationship between marital conflicts and variables such as age, length of marriage,

the length spent in battle fields, and intensity of injury. There was no significant difference in the GPA of veterans and non-veterans' children. There was no significant difference between veterans and nonveterans' teenage children in aggression, anxiety, and social maturity. Regarding marriage satisfaction in veterans' wives and the decrease in PTSD symptoms in veterans, there was no significant difference between the use of individual medical-cognitive method and group medical-cognitive method. PTSD Veterans' wives had a higher degree of anxiety, depression, aggression, and phobia in comparison with those of veterans with physical injuries. The religious attitude was stronger in veterans' children than non-veterans,' but child gender did not make any significant difference. Accord among veterans' children was higher than non-veterans'. There was a positive relationship between self-esteem and motivation for marriage. Women had a higher self-esteem and motivation for marriage. The relationship between social skills and motivation for marriage was also positive. No relationship was observed between veterans' motivation for marriage and their age, educational level, social and economical status, and their intensity of injury. A high level of psychological disorders resulted in lower marriage satisfaction. Abortion rate was higher in chemical veterans than non-chemical veterans. There was no significant relationship between marriage satisfaction and number of children, age, and intensity of injury for veterans' wives. Teaching self-awareness and impulsivity control could increase marriage satisfaction in veterans' wives. Social harmony was higher in veterans' children than non-veterans' children. There was a significant relationship between self-esteem and social harmony in veterans' children. There was a significant relationship between the quality of family interactions and social harmony in veterans' children. The same is true about their religious beliefs and social harmony.

The social harmony was higher in children of chemical veterans and those with spinal damage.

Table 1. The Number & Type of Studies Done Over Time

Decade of Performance	The 1980s		The 1990s		The 2000s		Total	
	Frequency	percentage	Frequency	percentage	Frequency	percentage	Frequency	percentage
Research	8	11.3	40	56.15	53	62.20	101	29.39
Paper	0	0	12	67.4	96	35.37	108	02.42
Seminar	0	0	10	89.3	38	49.14	48	38.18
Total	8	11.3	62	12.24	187	76.72	257	100

Table 2. The Number & Type of Research Done over Time

Decade of Performance	The 1960s		The 1970s		The 1980s		Total	
	Frequency	percentage	Frequency	percentage	Frequency	percentage	Frequency	percentage
Survey	4	1.92	18	8.61	87	40.53	109	51.6
Correlational	0	0	4	1.92	7	3.37	11	5.29
Experiential	0	0	12	5.22	17	8.17	29	13.39
Comparative	0	0	5	2.40	11	5.29	16	7.69
Retrospective	1	0.48	6	2.88	24	11.53	31	14.89
Review Study	0	0	3	1.44	5	2.40	8	3.84
Case Study	0	0	1	0.48	3	1.44	4	1.92
Needs Analysis	0	0	0	0	2	0.96	2	0.96
Testing	0	0	0	0	1	0.48	1	0.48
Total	5	2.40	49	22.95	158	74.65	212	100

Occupation: Paralyzed veterans try to present a better performance than expected. Veterans feel more responsible for the tasks assigned to them. Paralyzed veterans would like to have independence and freedom in the job they do. However, there was no significant difference between veterans' and non-veterans' job satisfaction. There is also no relationship between veterans' job satisfaction and the intensity of their injury. Vocational adjustment in veterans is lower than non-veterans, but the

job burnout is higher. Gender and marital status had no effect on vocational adjustment. As mental disorder increases, vocational adjustment decreases. There was a negative relationship between job status and self-esteem. Unemployment results in depression, and working lowers depression.

Social Issues: higher education resulted in success and social harmony. There was a significant direct relationship between social support and self-esteem. There was a

significant difference in oral communication skills between blind veterans and other veterans. Also, low educational levels could result in lower social efficacy. Veterans' value priorities were reported as: cultural values, social values, economical values, and political values. Most veterans believe that necessary steps should be taken so that they can return to the society and have normal life.

Drug Abuse: there was a negative direct relationship between faith and tendency towards drugs. It was also true about family dependence and drug use tendency. Drug use tendency has significant negative relationship with self-esteem and social supports. There is a significant relationship between drug abuse on the one hand, and age, educational degree, living expenses, time in battle fields, and the intensity of injury on the other hand. Drug abuse in smoker veterans with smoking was significantly higher than nonsmoking veterans.

Life Skills: Stress resistance strategies had a significant relationship with economical status and education. Blind veterans did not show any significant differences from other veterans in navigation, data recording, and calculation. The instruction of problem solving skills can decrease PTSD.

Mental Disorders: Mustard chemical gas contamination did not affect PTSD. As the intensity of injuries increases, the mental health level decreases. Personal accord in athlete and non-athlete veterans had a significant relationship with aggression, patience, desire for variety, dominance, sociability, autonomy, ostentation, deference, and improvement. Injury time length had a significant relationship with anxiety, obsession, and paranoidism. There was a

significant difference in suicide rate between veterans with neurological and psychological disorders and other veterans. There was a significant difference between physical and chemical veterans in sleeping disorders, depression, and anger. Veterans with neurological and psychological disorders had a lower mental health in comparison with physically injured veterans. PTSD veterans were less mentally healthy than non-PTSD veterans. Frustration is higher in PTSD veterans than other veterans. There was a significant relationship between rage complaints and behavioral disorders. No relationship existed between personality type and mental damage. As age, injury intensity, and injury time length increased, depression increased too. An increase in physical activity could decrease depression and external locus of control. There was a significant relationship between depression and external locus of control. Chemical veterans have more sexual problems than non-chemical veterans. As the intensity of their injuries increases, depression symptoms increase. Lower education will result in higher depression. Female chemically-injured veterans show higher levels of depression than male chemical veterans. Those who were exposed to chemical weapons, suffer from more serious neurological and psychological disorders. The intensity of cholesterol HDL is significantly lower in PTSD veterans. There is a significant relationship between age and mental health. Educational improvement has a positive relationship with general health in veterans' children. The intensity of injuries has a significant relationship with 'physical problem complaints' variable. There exists a significant relationship between marital status and phobia. Having a higher educational degree is related with sexual vigor

and sex drive. There exists a significant relationship between psychosis in veterans and time in battle fields as well as between their general health and educational improvement. Their children have a higher general health if veterans have a higher educational degree. Committing suicide has a significant relationship with marital status, injury intensity, exposure to chemical gases, trauma background, a record for mental medication, and a record for other medical diseases. The most important physiological side effects for veterans are: pain, urination disorders, sleeping disorders, breathing problems, digestive problems, and skeletal-muscular problems. The time interval between injury and death is related with the intensity of injuries and length of time in battle fields. The time interval between injury and death is shorter in PTSD and chemical veterans than physical veterans.

Medication: Cognitive-Behavioral medication can help lower anxiety and depression. Metacognitive-behavioral medication can lower PTSD symptoms and depression. Theater medication could significantly lower anxiety and depression in an experimental study. Family behavioral medication could decrease the intensity of PTSD symptoms. Medical exercising and relaxing had a positive effect on the functioning of lungs, and can lower the normal respiratory rate. Rehabilitation can help family relations, medical treatment, vocational adjustment, and educational pursuit.

Welfare: There was a significant relationship between the intensity of injuries and veterans' distrust in having access to emergency medical care, as well as education and knowledge of medical interventions. Better educated medical staff could result

in higher levels of satisfaction in visitors to Veteran Affairs Organization (VAO).

The strength of research done on veterans and their families' mental health were:

1) An increase in the number of the research studies especially the journal articles. There was a considerable raise in 2008, which had the highest record in the last 30 years. It is worth mentioning that the number of published papers in the 2000s was 9 times more than those in the 1990s and Latin papers in the 2000s.

2) A change in the type and method of studies from more descriptive research and surveys to more inclusive methods and types including needs analysis, testing, case analysis, etc.

3) The use of more advanced and complicated statistical tests in data analysis such as regression, ANOVA, path analysis, content analysis, etc., which shows improvement in researchers' knowledge base [27,28].

4) The extension of the scope of research to include veterans' families, VAO personnel, and society which shows researchers' awareness of all the involving elements and issues related to veterans though this development is not at an acceptable level [19,21,22,29].

5) The extension of the research studies in the field of mental health to all groups of veterans such as those with spinal cord damage and visually impaired veterans. There has been a shift from mere concentration on issues related to chemical veterans and those with PTSD [20-32].

6) The extension of research to other parts of Iran and doing nation-wide studies

though it is still far from being adequate [19].

The weak points in the field of research on veterans and their families' mental health were:

- 1) Lack of a specific and independent organization responsible for research on veterans and their families' related issues; Inattention to this field and lack of adequate budget for that are other problems.
- 2) Lack of policy and guide lines for research in this field, which has resulted in researcher-centeredness in the field; Strategic planning requires doing needs analysis, situation analysis, future study, devising research strategies, project management, researcher identification, and goal-oriented implementation of the results.
- 3) Lack of a matrix and research map in the field,
- 4) Inadequacy of financial supports for research in this field,
- 5) Inadequacy in the publication of the findings of research in the field,
- 6) Researchers' inadequacy and weakness of research studies in sample size, research scope, research methodology, statistical data analysis, etc.
- 7) The fact that most research done in the field is restricted to those carried out in Tehran, especially Baqiyatallah University and Veteran Affairs Research Center,
- 8) The role of Veteran Affairs Medical and Technical Research Center; in case this

center is responsible for policy making and strategy planning, then it should leave doing research and projects to other universities and research centers and have a supervisory role. However, if it is responsible for doing research projects, then policy making and strategy planning need an independent responsible organization.

- 9) The inadequacy of the number of published article on veterans and their families' mental health especially the international papers,
- 10) Lack of innovation in research, education, and medication in the field of mental health for veterans and their families,
- 11) The concentration of the studies on descriptive studies, survey, and correlational studies and lack of experimental studies,
- 12) Inadequacy of research on their family's mental health and other similar fields,
- 13) Inadequacy of research on other groups of veterans and the concentration of studies on chemical veterans and those with PTSD,
- 14) The disparity of results in different parts of the country and lack of a data base for them

The present gaps and research matrix for veterans and their families' mental health are presented in Table 3.

Table 3. Matrix for Research on Veterans' and their Families' Mental Health

Dimension	Research type	Present state	Research summary
Research orientation	Fundamental	weak	Neuro-psychological mechanisms and processes for PTSD, delayed PTSD, TTG, Vicarious and secondary PTSD

Dimension	Research type	Present state	Research summary
Method	Situation analysis	fair	The present state of veterans' mental disorders; their needed facilities; their family problems; problems related to their social status, attitudes, and value systems; the present state of research, researchers, specialists, medical interventions, and research and medical centers
	Needs analysis	weak	Needs analysis for future issues and needed facilities; veterans' needs; their partner, family and children's needs; needs analysis on the scientific, educational, medical, and research needs
	Welfare expansion	weak	Identification of effective medical tools, methods, and techniques; effective social and welfare services
	Descriptive	good	Longitudinal studies, social studies
	Comparative	Fair	Cross-generational studies, path analysis, factor analysis
	Historical	weak	Other countries' veterans' mental health related issues, and those at early Islamic wars
	Qualitative	weak	Meta-analysis, content analysis, case study
Research topics	Experimental	weak	The study of the effects of newly developed medicines as well as the effectiveness of all new medical methods such as psychotherapy, couple therapy, family therapy, interventional systems and systemic interventions
	Tool making	weak	Measuring PTSD, delayed PTSD, PTG, TMS, Virtual therapy, etc.
	Psychoanalysis	good	Personality disorders, suicide, addiction, sexual disorders
	Family	weak	Collateral damage, cross-generation damage transfer, family treatments
	Mental-Social	weak	Social support, social status, social maturity, veteran and their families' social interactions, veterans' welfare system
Research scope	Spiritual psychology	weak	Role and effect of spiritualism in the treatment and prevention of veterans' problems, the treatment derived from spiritual beliefs
	Local	good	---
	National	weak	The epidemiology and etiology of the disorders, mental health database, veterans' mental health indices, syndromes specific to Iranian veterans
	Ethnic-Islamic	weak	Role of cultural traditions, role of being religion, treatments derived from Islamic concepts
Research study population	International	weak	Comparative studies on veterans of other countries' wars, investigation of Iranian veterans' syndromes and their treatments in comparison with those of other countries
	Veterans	good	Diagnostic methods, modern and new medical interventions
	Family	weak	Collateral damage, cross-generation damage transfer, family systematic treatments
	VA Organization	weak	A reanalysis of the effects on veterans, reanalysis and development of the supportive measures, collateral damage in the personnel, reanalysis of the

Dimension	Research type	Present state	Research summary
Retrospective Or future study	Society	weak	methods and the criteria for selecting and employing VAO staff Comparative studies with non-veterans, methods of increasing veterans' social status, social support, attitude towards veterans, the supportive system in social rules, social values and attitudes, sociology of veterans
	retrospective	good	Role of previous research in improving veterans' life quality, evaluation of previous research, doing meta-analysis on the basic factors in activation and enhancement of neuro-psychological disorders
	Future study	weak	Future neuro-psychological disorders prevention strategies, modern medical interventions, theorizing in the treatment and prevention of veterans' disorders, PTG prevention methods and theorization for that, new diagnostic tools, the pathology of mental health related issues as well as the methods for improving the mental health, the prevention from damage in future wars including electronic wars, brain combats, cyber wars, cultural wars, and other modern and invisible wars

Discussion

As mentioned above, there are some gaps in the field of research on veterans' mental health. Most research studies were applied studies while basic research like research on neuropsychological mechanisms of PTSD is very little. Situation analysis studies like those on the present state of mental disorders in veterans is at moderate level, while there has been no needs analysis on veterans so far, and there has been very few studies on the improvement of welfare and social services for veterans. There has been a lot of descriptive research, and the number of comparative studies has been ok, but tool making studies such as PTSD testing have been very weak, with very few experimental studies, but there has been no meta-analysis and historical studies as in the study of health issues in veterans with mental damage in historical wars in the world.

Regarding research topics and fields, there have been a lot of psychological studies as in those in personality problems and disorders. Family-related studies like cross-generational damage transfer were few as in the case of research on social mental problems. Surprisingly, there has been no research so far in the field of the spiritual psychology. An example of research in this field could be the effect of religious beliefs on the prevention and treatment of veterans.

After the review of the research in the field of veterans and their families' mental health, the following points were noted:

- 1) One needs to notice that most studies carried out in this field were of correlational type. Though these studies give us helpful information about the relationship between dependent and independent variables, they cannot say anything about

cause and effect relationships. As such, the gap for more cause and effect studies is felt in the field.

2) In most studies, due to concentration on the investigation of a specific type of veterans' problems, researchers have relied on the basic notions and concepts which were borrowed from western studies. They use data collection tools which were simply a translated version of the original western designed tools without adapting them with Iranian context. Another gap observed in the field is the lack of qualitative research like content analysis and case studies. In other words, knowledge production in this field and innovation of ideas and thoughts at a nation-wide and global scope need the creation of constructs and concepts from qualitative studies in the form of grounded theory. The synthesis of the previous findings on the veterans' mental health for the purpose of filling the research gaps in the field is only possible through designing and conducting qualitative research. Despite the good steps taken in this regard in the field of behavioral sciences and psychology, and the rich base of findings in the last 3 decades, the gap in the application of this type of research methodology can still be felt.

3) The research done so far has not paid attention to drawing a roadmap for the organizations involved in veterans' medical affairs.

4) No attention has been paid in the research studies done so far to the long term effect of physical and psychological disorders on veterans' mental, social, economical, living, and family processes. Moreover, the veterans' experienced psychological disorders have not been examined based on the type of injuries.

5) The role of veterans' partners and families in strengthening veterans' mental, social, physical, and spiritual bases has been ignored.

6) The protective and supportive role of the family type (nucleus or extended families) has not been studied. Considering the fact that the Iranian society has a collectivist culture and has less emphasis on individualism, unlike western societies, one question is raised here: Can the results of the studies done in western countries on veterans be applied and generalized to the Iranian society? In other word, is it possible to generalize the western intervention methods and techniques to the field of veterans' mental health in Iran? By the spread of mere translation of the western research tools, research findings, and protocols, the importance of these questions has become more evident.

It seems that the suggestions proposed in previous findings are too weak and inapplicable. Researchers need to be instructed on how to extract and make research suggestions. There must also be interactions among researchers, employers, and employees in the research project on the process of suggestion making.

Some of the possible actions to be done as proposed by the present study include: making mental health records for veterans and their families; teaching psychotherapy, couple therapy, and family therapy for veterans and their families to the psychologist and counselors working with veterans and their families; and giving priority to treating veterans' sexual disorders as one of the most important needed treatments. In addition, an organization should be chosen as the responsible authority for research on veterans' mental health. It is

necessary to form a council comprising of health authorities from Veteran Affairs Organization, Veteran Affairs Research Center, Baqiyatallah University of Medical Sciences, and all other universities and research centers involved in the field of veterans' mental health care. Policy making, planning, and the management of the research in this field should be assigned to this council. All the research done regarding veterans and their families' mental health should be concentrated and recorded in one data base so that researchers, specialists, and anyone involved with veterans' related issues can access and use them easily. Researchers and those involved in field of research on veterans' mental health need to meet regularly and be taught the latest methods of doing research and data analysis. This way they will also be aware of the research needs in the field. Using the suggested research matrix in the present study, Delphi's seminar, and scholars' advice, the short term and long term policies, strategies, and plans for the field of research on veterans' mental health can be worked out and managed.

Conclusion

The findings of the present study can help develop a road map for all those involved research and medication authorities in the field of veterans and their families' mental health. They can also help illuminate the policy making strategies for future research in the form of descriptive-analytic evaluation of findings, dilemmas, and research orientations.

Acknowledgment: We would like to appreciate all researchers working in the field of veterans' mental health and those whose work was used in the present study, as well as all those veterans and their families who kindly participated in this study.

We would also like to appreciate the cooperation of all organizations which helped us in doing this piece of research especially the Behavioral Sciences Research Center at Baqiyatallah University, Veteran Affairs Research Center, VA Mental Health Center. Finally, our special thanks go to Dr Soroush.

References

1. Seal, K. H., Metzler, T. J., Gima, K. S., Bertenthal, D., Maguen, S., & Marmar, C. R. (2009). Trends and risk factors for mental health diagnoses among Iraq and Afghanistan veterans using Department of Veterans Affairs health care, 2002-2008. *American Journal of Public Health*, 99(9), 1651-1658.
2. Jacobson, I. G., Ryan, M. A. K., Hooper, T. I., Smith, T. C., Amoroso, P. J., Boyko, E. J., et al. (2008). Alcohol use and alcohol-related problems before and after military combat deployment. *Journal of the American Medical Association*, 300(6), 663-675.
3. Wilk, J. E., Bliese, P. D., Kim, P. Y., Thomas, J. L., McGurk, D., & Hoge, C. W. (2009). Relationship of combat experiences to alcohol misuse among U.S. soldiers returning from the Iraq war. *Drug and Alcohol Dependence*, 108(1-2), 115-121.
4. Calhoun, P. S., Elter, J. R., Jones, E. R., Kudler, H., & Straits-Traster, K. (2008). Hazardous alcohol use and receipt of risk-reduction counseling among U.S. veterans of the wars in Iraq and Afghanistan. *The Journal of Clinical Psychiatry*, 69(11), 1686-1693.
5. Milliken, C. S., Auchterlonie, J. L., & Hoge, C. W. (2007). Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. *JAMA, the Journal of the American Medical Association*, 298(18), 2141-2148.
6. Elbogen EB, Fuller S, Johnson SC, Brooks S, Kinneer P, Calhoun PS, Beckham JC. (2010). Improving risk assessment of violence among military veterans: an evidence-based approach for clinical decision-making. *Clin Psychol Rev.*;30(6):595-607. Epub 2010 Mar 30.
7. Frueh, B., Turner, S. M., Beidel, D. C., & Cahill, S. P. (2001). Assessment of social functioning in combat veterans with PTSD. *Aggression and Violent Behavior*, 6(1), 79-90.

8. Cigrang, J. A., Peterson, A. L., & Schobitz, R. P. (2005). Three American troops in Iraq: Evaluation of a brief exposure therapy treatment for the secondary prevention of combat-related PTSD. *Pragmatic Case Studies in Psychotherapy*, 1(2), 1-25.
9. Friedman, M. J. (2006). Posttraumatic stress disorder among military returnees from Afghanistan and Iraq. *American Journal of Psychiatry*, 163(4), 586-593.
10. Grieger, T. A., & Benedek, D. M. (2006). Psychiatric disorders following return from combat duty during the twenty-first century. *Primary Psychiatry*, 13(3), 45-50.
11. Fiellin, D. A., Saxon, A., & Renner, J. A., Jr. (2006). Mental health after deployment to Iraq or Afghanistan: Commentary. *JAMA: Journal of the American Medical Association*, 296 (5), 515.
12. Jakupcak, Matthew. & Verra, Edward. M. (2010). Treating Iraq and Afghanistan War Veterans with PTSD Who Are at High Risk for Suicide. *Cognitive and Behavioral Practice* doi:10.1016/j.cbpra, 1-13.
13. Kang, H. (2009). Analysis of VA Health Care utilization among US Global War on Terrorism (GWOT) veterans. Unpublished report, VHA Office of Public Health and Environmental Hazards.
14. Ahmadi, K., Ranjbar-Shayan, H., Raiisi, F. Sexual dysfunction and marital satisfaction among the chemically injured veterans, *Indi Jou of Urol*, 2007, 23 (4), pp. 377-382.
15. Ahmadi, K., Fathi-Ashtiani, A., Zareir, A., Arabnia, A., Amiri, M. Sexual dysfunctions and marital adjustment in veterans with PTSD, *Archives of Medical Science*, 2006, 2 (4), pp. 280-285
16. Khateri S, Ghanei M, Keshavarz S, Soroush M, Haines D. Incidence of lung, eye, and skin lesions as late complications in 34,000 Iranians with war-time exposure to mustard agent. *J Occup Environ Med* 45(11): 1136-43.
17. Tavallaie S. A. , Assari SH. , Najafi M. , Habibi M. , Ghanei M. , Study of Sleep Quality in Chemical-Warfare-Agents Exposed Veterans *Journal of Military Medicine*, 2005; 6 (4) :241-248
18. Vafai B. , Seidy A. , Study of The Prevalence and Intensity Of Depression in 100 Devotees With Chemical and non-chemical war injuies (30-70%) of Imposed war in tabriz *Journal of Military Medicine*, 2003; 5 (2) :105-110
19. Ahmadi, K., Reshadatjoo, M., Karami, G., Sepehrvand, N., Ahmadi, P. Vicarious PTSD in Sardasht chemical warfare victims' offspring, *Procedia - Social and Behavioral Sciences*, 2010, 5, pp. 170-173
20. Vafaie Bagher, Ghaderi Salim; Prevalence of mental disorder in chemical injured. *Teh Med Scie Fac J*. 2004;62(10):858-863. [Persian]
21. Fathi-Ashtiyani A, Karami R. Subsequent clinical study some psychological injuries of war. *Mil Med*, 2002;4(4):225-9. [Persian]
22. Vafaei B, Saidi A. Prevalence and severity of depression in 100 persons who were injured 30 to 70 percent of chemical and non chemical victims of war in Tabriz. *Mil Med*. 2006;5(1):105-10. [Persian]
23. Izanlo Balal, Habibi Mojtaba; Application of meta-analysis in social and behavioral science: a review of advantages, disadvantages, and methodological issues; *Beh Sci Res J.* 2010;9(1):70-82. [Persian]
24. Petticrew, M., & Roberts, H. *Systematic reviews in the social sciences: A practical guide*. Malden, MA: Blackwell. 2006.
25. Healy, marilyn, perry, chad, comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm, *Qual Mar Res: An Inter J*, 2000, vol.3, No.3.
26. Marshall, C., & Rossman, G. B. *Designing Qualitative Research (4 th ed.)*. Thousand Oaks, CA: Sage.2006.
27. Habibi, M., Eskandari, F., Besharat, M.A., & Mohammadifar, M.A. Comparison of Log-Linear and Chi-Square Models in Multi-Way Contingency Tables: Investigation of Relation among Sex, Attachment Styles and Defense Mechanism. *Iranian Journal of Psychological Science*, 2006, 5(2), 143-166.
28. Habibi, M., & Besharat, M.A . A Comparison of Chi-Square and Log-Linear Models in Classification of Two-Way Contingency Tables: Analysis of Attachment Styles among MZ and DZ Twins. *Journal of Psychological Science*, 2005, 3(2), 159-180.
29. Ahmadi Khodabakhsh, Azampoor-Afshar Seddige, Karami Gholamreza & Mokhtari Arastoo, (2011): The Association of Veterans' PTSD with Secondary Trauma among Veterans', Spouses, *Journal of Aggression, Maltreatment & Trauma*, 20:6, 636-644
30. Ahmadi, K., Reshadatjoo, M., Sepehrvand, N., Ahmadi, P., Yaribeygi, H. Evaluation of vicarious PTSD among children of Sardasht chemical warfare survivors 20 years after Iran-Iraq war, *J of Appl Scie*, 2010, 10 (23), pp. 3111-3116
31. Madarshahiean F. , Comparison of Coping With direct and indirect consequences of war stress

in later life between chemical and physical war injureds Journal of Military Medicine, 2003; 5 (2) :117-120

32. Nejati Vahid, Coparision of cognitive status of blind veterands with sighted people Journal of Military Medicine, 2008; 10 (1) :21-28

Note:

.....
.....
.....
.....
.....