

Effects Of TBI - Related Communication Disorders On Functional Wellbeing Of Kenya Defence Force Ex-War Soldiers

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Abstract

The purpose of this study was to assess the effects of Traumatic Brain Injury (TBI) related communication disorders on functional wellbeing of Kenya Defence Force ex-war soldiers. It was motivated by the increasing cases of TBI's over the last few years due to Kenyan military intervention in Somalia in pursuit of the Al-Shabaab terrorists. The objective of this study was to identify and describe the communication disorders prevalent among KDF ex-war soldiers with TBI and their effects on their functional well-being. The study also sought to establish the contributions of speech and language pathology (SLP) services towards the improvement and maintenance of the soldiers' functional well-being. This study was based on Health Related Quality of Life (HRQOL) measures drawn from the broad Quality of Life (QoL) theory. Data was collected from the available accessible Kenya Defense Forces Ex-war Soldiers with TBI-related communication disorders who were either attending or had attended treatment at the military memorial hospital in Nairobi, their caregivers and medical specialists. A case study research design was employed with mixed method of data collection using observation, interviews and questionnaires as the research tools of choice. The data collected was then analyzed using a descriptive analysis method presenting quantitative data in form of frequency counts, percentages and tables and thematically analyzing qualitative data. The study found out that a majority of ex-war soldiers with TBI suffered from untreated heterogeneous communication disorders ranging from expressive, receptive to receptive-expressive speech/ language disorders. These were characterized by hesitations, articulation challenges, selective memory, slurred speech, and phonological errors. The study found out that these TBI-related communication disorders led to social-emotional life changes and early retirements of most of young ex-war soldiers due to inability to perform in their employment-related duties and or engage in other income generating activities. The major study conclusion was that a broad spectrum of TBI-related communication disorders adversely affected the functional wellbeing of the ex-war soldiers. The study, therefore recommends that, a collaborative effort in policy development for provision of professional training to clinicians, caregiver empowerment, strengthening societal institutions through government funding, subsidies and making of specific societal institutions' hierarchical changes should be embraced in order to improve the functional capabilities of the affected Kenyan ex-war soldiers.

Keywords: communication, wellbeing, disorders, caregivers, expressive, receptive, functional, collaborative.

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I. Introduction

Traumatic Brain Injury (TBI) is a global condition that has long-term effects on the lives of the affected. In many countries, speech-language pathology is a new profession with limited resources and professionals and hence some people with TBI-related communication disorders are not able to receive adequate treatment services (Erika, 2014). According to the World Health Organization, Traumatic Brain Injury (TBI) causes many deaths and disabilities globally and it is expected that it may surpass many diseases as the major cause of disabilities and deaths by the year 2020 (Hyder, 2007). According to Levin (2004), disparities that occur as a result of socio-economic status, diverse socio-cultural influences, and widely varying education systems and attainment makes the treatment of TBI-related ailments a challenging venture in some countries than it is in others. Additionally, in the underdeveloped countries, few services, limited knowledge of the condition and insufficient professionals may be hindrances to the treatment of TBI-related communication disorders.

According to the National Centre for Posttraumatic Stress Disorders in the US (NC-PTSD, 2010; 2016, Sippel, Roy, Southwick & Fichtenholtz, 2016), there is an increasing concern that war-related TBI may be a relatively frequent occurrence in the recent conflicts of Operation Enduring Freedom (OEF) of 2001, and the Operation Iraqi Freedom (OIF) of 2003. A study that used a Joint Theater Trauma Registry to evaluate the

injury patterns and distribution of combat wounds from OEF and OIF and compared them to earlier conflicts (Owens, 2008), unearthed considerable changes in injury patterns for battle-related wounds. It emerged that numbers of injuries to the chest decreased (5.9% for OEF and OIF, 13.4% for Vietnam war, II 13.9% for World War II) while the injuries to the regions of the head and neck increased (OEF and OIF 30.0%, Vietnam 16.0%, and World War II 21.0%).

In Operation Iraqi Freedom and Operation Enduring Freedom, from October 2001 to January 2005, it was reported that among the individuals with combat-related injuries, a total of 1,566 military men/women in battle sustained 6,609 combat wounds, to the head (8%), eyes (6%), ears (3%), face (10%), neck (3%), thorax (6%), abdomen (11%), and extremities (54%). The proportion of head to neck injuries between 2001 and 2005 was higher than that suffered in World War II, Vietnam, and Korea wars (Raymont, Salazar, Krueger, & Grafman, 2011). Furthermore, according to brainlinemilitary.org, a website that deals with TBI-related health conditions among US Militaries, while wounds caused by gunshots were 18% of the injuries in the period between 2001 to 2005, those caused by explosions were 78% of the total injuries, this being the highest percentage reached in any large-scale conflict. The US military data showed that between 2010 and 2011, 235,046 soldiers (4.2% of the 5,603,705) serving in the US Military were diagnosed with TBI (CDC, NIH, 2013). This clearly shows an increasing global TBI prevalence among soldiers at war zones emanating from war related fatalities putting into considerations that the current terrorists strategies of attacks is majorly explosives.

In Kenya, cases of TBI among the soldiers have been on the increase over the last few years due to military intervention in Somalia in pursuit of Al-Shabaab that are alleged to have taken hostage several foreign tourists and aid workers inside Kenya (Anderson & McKnight, 2014). Several attacks majorly explosives to the Amisom and KDF military personnel by the Al-shabaab have been experienced resulting into TBI's and related conditions. According to highbeam.com, a research website, the El Adde attack in January, 2016 is a major indicator of the injuries that survivors sustained among which are TBI's (Nderitu, 2015; UN, 2016).

In the United States of America, there are well coordinated services program by the Department in charge of Veterans Affairs, Defense and Veterans Brain Injury Center and the US Department of Defense Military Health System that provides a holistic health care program for war veterans, active duty military with TBI's and their dependents (VHI, 2010). This ensures a bridge to a meaningful recovery and efforts to improve individual soldiers' functional wellbeing to enable them live a quality life. However, in Kenya, TBI-related communication disorders treatment services are not adequate due to the limited facilities and relevant qualified personnel. In most cases, TBI patients are required to undergo clinical treatment and a variety of therapies: physical, occupational, and clinical language therapy but only physical and occupational therapies are provided in Government hospitals. Clinical language therapy services are only offered in a few selected high cost hospitals in Kenya like Nairobi and Agha Khan Hospitals (Gaitho, 2009). Thus, a much needed holistic TBI-related communication disorder treatment services are hardly available in the country since there are limited or no respective rehabilitative and treatment services. This may result into untreated speech and language impairments emanating from TBI's which affects the functional wellbeing of the Kenyan ex-war soldiers.

Purpose of the study

The purpose of this study was to assess the effects of traumatic brain injury-related communication disorders on the functional wellbeing of the Kenya Defence Force Ex-war soldiers.

Significance of the study

This study is significant for many people with TBI going back home after being discharged from health institutions and rehabilitation centers. This is because a substantive number of them need to continually receive support to live independently. The support should focus on areas of work life, family life, provision of therapy services and social activities from programs that are community-based. This would help them reclaim a meaningful and satisfying presence in the community that is socially productive.

This study was a significant endeavor in unearthing the extent to which TBI-related communication disorders affect functional wellbeing among the KDF soldiers, a report which could serve as a future reference in the formulation of effective treatment and rehabilitative services in the military and the country at large. Moreover, the study may also add to the realization of the Kenya's Patients' Rights Charter (2013). Secondly, this study is of great benefit to the improvement of lives of all KDF soldiers returning from war torn countries and other citizens suffering from TBI related communication disorders. It may also serve as a point of reference for the universities and scholars conducting research and further studies on subject. The government may also use the study findings as a guide for addressing the need for more trained SLP service providers and in the establishment of TBI related communication disorders rehabilitation and treatment centers in Kenya.

II. Literature Review

Theoretical underpinnings

This study was guided by the Quality of Life (QoL) theory, a concept derived from Maslow's hierarchy of needs (Sirgy, 1986). According to the theory, a given society is defined by the hierarchical needs satisfaction levels of most of its members. This study established the satisfaction levels of Kenyan ex-war soldiers with TBI which were a reflection of their functional wellbeing, a domain of quality of life. Away from the broad perspective of this theory, this study solely focused on the Health-related quality of life (HRQOL) of the sampled individuals in relation to TBI-related speech and language disorders and the available treatment and rehabilitative services. Health-related quality of life (HRQoL) is a multi-dimensional concept derived from the broad QoL theory which focuses on the impact health status has on individual's quality of life – it includes domains of physical, functional, social and emotional well-being of the people in a given society. In this case, by solely focusing on the functional wellbeing domain, the study used HRQOL based on a logical thought that health outcomes should be measured in an attempt to assess the population's health to save lives and improve their quality (CDC 2011). This is accomplished through a concept that institutions in a society are there to serve human needs, and therefore a society's QoL. These institutions include productive, maintenance, managerial and political, and adaptive institutions. Each of these institutions in the society involves a hierarchical dimension. It was therefore argued that in order to realize a progressive increase in the domains of QoL in any society, hierarchical changes of these societal institutions must be made (Sirgy, 1986).

Empirical literature

Reliable research shows that 80-100% of people with TBI may eventually have some forms of communication impairments (Halpern, Darley & Brown, 1973; Sarno & Hook, 1980). This group comprises largely those who have cognitive communicative inadequacies (Freund et al., 1994; Hagen, 1986; Hartley 1995; Holand, 1984). Mood disorders (e.g. depression) may also occur as a result of communication disabilities affecting work-related behaviors, social interactions, organizational skills, work attitudes and performance (Tyerman, 2012). Difficulties may be more obvious in situations, activities, and/or tasks that are new to them (since the TBI) or those that they did not do too often before the TBI than those that they regularly did.

In the developed world like the U.S and other European countries there are well coordinated speech-language services programs ensuring a bridge to a meaningful recovery and efforts to improve individual soldiers and family functional wellbeing towards a quality life (VHI, 2010; Saxena, & Ommeren, 2005).

In Kenya, there are no specific programmes, policies and institutions set aside to deal with TBI cases. SLP services are only available in high end private hospitals in the country like Agha Khan Hospital (Gaitho, 2009). In order to make this a reality in Kenya, mobilization of relevant resources and personnel by the government should be a priority guided by relevant research and data on the status of the people's TBI-related HRQOL. KDF intervention mechanism targeting ex-war soldiers with TBI and their families would greatly promote confidence among them. However, such mechanisms are unavailable (Oguna, 2016). Thus, this research was motivated by the desire to fill the gaps by assessing and documenting the effects TBI-related communication disorders have on the functional abilities of the affected for proper planning, policy development for management, treatment and rehabilitation of the affected ex-military personnel.

III. Research Design And Methodology

Design

In this study, case study with mixed methods of research was used as the research design of choice applying observational, clinical and situation analysis case study approaches to obtain the expected results. This method was used as a means to developing ideas for more extensive research in the future since there is hardly any quality of life related studies done in Kenya (Muli & Rhoda, 2013). This design was appropriate for the choice of research tools used. The detailed qualitative accounts produced in the case study helped both in the exploration and the description of the data in real-life environment and in explaining the complexities of real-life situations which may not be captured through experimental or survey research (Zainal, 2003).

Participants

The study focused on the individual KDF ex-war soldiers returning from Somalia and other war torn countries with TBI who were attending or had attended treatment services at the Military Memorial Hospital in Nairobi. The study also included the specific soldiers' care-givers/family members and important others. Ten (10) ex-war soldiers with TBI's and three (3) care givers formed the accessible population. Further, two medical specialists dealing with Ex-war soldiers with TBI's were interviewed adding up to a total of fifteen (15) respondents.

Methods

In this study, structured observation schedules, interviews and questionnaires were used to elicit the required information for analysis. Interviews had structured question guides designed to reveal the required information. The interview question guides are useful in keeping the researcher focused on the objectives of the study and in data analysis. They also help one to manage interview time efficiently, while allowing interviewees the opportunity to address unforeseen issues. Questionnaires had a list of questions with clear instructions and spaces for answers designed to purposely meet the demands of the objectives of the research. The sampled KDF soldiers with TBI-related communication disorders were observed and subjected to structured questionnaires. The sampled caregivers and medical specialists were subjected to individual interviews to seek their opinions on the impact TBI-related communication disorders have on the functional wellbeing of the affected KDF ex-war soldiers.

Procedure

In order to get a mirror representation for validity and reliability, primary data for piloting was collected involving 40% of the study population upon requesting for permission from the relevant authorities. Six ex-war soldiers with TBI-related communication disorders who were not part of the main study formed the sample size. The researcher explained the nature and purpose of the study to establish rapport with the piloting participants. During the actual data collection, this study adopted the use of questionnaires and interviews. Arrangements were made on meeting the respondents through telephone calls to the families and individual ex-war soldiers. Visiting the families was done by True North research assistants to obtain consent from the participants. The researcher once again explained the nature and purpose of the study to the participants who were not part of the piloting team. The researcher asked structured questions, listened to and recorded answers from the respondents. Afterwards, the respondents were given forms with structured questions to fill and return to the researcher, a process that took three days. The researcher also used direct observation to make direct measurements and recorded data that could not be elicited or obtained through questionnaires. The researcher used English language in the development of tool items. However, in the cases of a participant's inability to use English in responding to the items, the researcher translated to Kiswahili to obtain responses from the participants

Testing research validity and reliability

Validity is the extent to which an indicator accurately measures a concept. In other words, an indicator of some abstract concept is valid to the extent that it brings out a result of what it is purported to measure. The focus on validity was not solely on the instrument but on the scores derived from the instrument, their interpretation and meaning (Ary, Jacobs, Razavieh, & Sorensen 2009). In the case of the present study, expert judgments were used to determine the content or face validity of the items on the questionnaires guide. Reliability refers to the relationship between two parallel versions of the measure that may be taken at different times, emanating from two different sources, or consisting of different, but equivalent, component item (Kerck, 1992). It is the extent to which a measure would earn consistent results each time it is used (Ary, Jacobs & Razavieh, 2002). A reliability test was performed using Cronbach's Alpha to establish the internal consistency of the items on the questionnaire. A reliability coefficient of 0.7 and above was acceptable (Fraenkel & Wallen, 1993). After piloting the data collection instruments, the internal consistency procedure was used to determine the true score variance in the characteristics measured by the instruments. The determination was made by the score obtained from a test administered to a sample of participants. The data collection tools used in this study were therefore accurate and hence suitable for the study. The Cronbach's Alpha reliability coefficient value was 0.728.

Data Analysis

The researcher edited the data collected from the field to ensure that it was error free. Further, the data was organized, coded and categorized according to the range of responses noting personal reflections and other comments put down in the margins. Identification of patterns and processes was done on emerging commonalities and differences. Small sets of generalizations covering consistencies discerned in the data base were elaborated. These generalizations were further examined in relation to the existing forms of knowledge and theoretical framework from which an elaborate report was generated. Data emanating from the tools was described and summarized into statistical data for analysis. The data collected was also presented in tables and figures. It is from these analyses that findings emanated, a conclusion drawn, and recommendations and suggestions for further research were made.

IV. Results

The questionnaires that were properly filled and returned were 13 out of 17 (10 ex-war soldiers and 3 caregivers). This amounted to 76.5% of the total respondents which was adequate to make the analysis and discussions. Two medical specialists dealing with ex-war soldiers were also interviewed bringing to 15 the total number of respondents which was comprises of 11 males and 4 females in this study.

The 76.5% return rate can be attributed to the sensitivity of the research topic under investigation. Also some of the respondents were reluctant to participate in the study as they were not willing to let their health-related status known after a traumatic brain injury in the military service. Nevertheless, the researcher managed to exhaustively collect data from the accessible available participants with confidence that the data collected replicates the bigger picture among the ex-war soldiers with TBI-related communication disorders.

It was also observed that more than a quarter of the respondents (30%) were below 30 years old with nearly a quarter of the respondents (20%) ranging between 30 to 40, 40 to 50 and 50 to 60 years old. That only 10% of the respondents ranged above 60 years old. In a study that looked at the effect of age and gender on the subjective quality of life of people with severe and persistent mental illness Mercier, Peladeau and Tempier (1998) statistical analyses showed no difference between men and women on quality of life while age was systematically related to satisfaction level with older participants being more satisfied with their lives than their younger counterparts which implies that this may have substantive effects on their functional wellbeing. The sample outcome of the current study shows that majority (50%) of ex-war soldiers with TBI-related communication disorders were 40 years old and below. This implies that a majority of them may have subjective low satisfaction levels which in turn affect their quality of life in relation to their functional wellbeing.

The Nature of TBI-related Communication Disorders Prevalent among the KDF Ex-war Soldiers

In the first objective the study sought to identify and describe the TBI-related communication disorders prevalence among KDF Ex-war soldiers. The table below shows the responses as received from the ex-war soldiers.

Table 1 Nature of TBI-related communication disorders

Response rate	Not at All	Slightly	Moderately	Quite	Very
Category factor	F (%)	F (%)	F (%)	F (%)	F (%)
Satisfaction with own ability to understand others in a conversation	0(0)	3 (30)	3 (30)	2 (20)	2 (20)
Satisfaction with own ability to express self in a conversation	0(0)	4 (40)	3 (30)	0(0)	3 (30)
Satisfaction with own speed of word production in a conversation	0(0)	5(50)	3 (30)	0(0)	2 (20)
Satisfaction with own ability to articulate the intended words in a conversation?	1(10)	4 (40)	3 (30)	0(0)	2 (20)
Satisfaction with own ability to be understood in a conversation	0(0)	4 (40)	5(50)	0(0)	1 (10)
How much one thinks own communication abilities have been affected by TBI	0(0)	2 (20)	0(0)	5(50)	3 (30)
			TOTAL	10	100.0%

It can be observed from the results in Table 1 above that more than half (6) of the respondents were slightly and moderately satisfied with their own ability to understand others in a conversation with the remaining (4) of the respondents satisfied. This implies that nearly two thirds of the respondent ex-war soldiers suffered from a range of receptive TBI – related communication disorders. Also, respondents were required to rate their satisfaction with their ability to express themselves and be understood by others in a conversations. Results showed that 3 of the respondents were slightly satisfied with their ability to express themselves while 4 moderately satisfied respectively. That four (4) and (5) respondents were slightly and moderately satisfied with their ability to be understood by others in a conversation respectively. It was revealed that only 3 of the respondents were satisfied with their ability to express themselves in a conversation with only 1 participant satisfied with the ability to be understood by others in a conversation respectively. This implies that more than two-thirds of the respondent ex-war soldiers had a range of expressive TBI-related communication disorders. Respondents were also required to rate their speed of word production and the ability to articulate the intended words in a conversation. It can be observed from results that 8 of them were slightly and moderately satisfied with their speed of word production with the remaining 2 participants satisfied. That also, 1 respondent was completely not satisfied with their abilities to articulate the intended words in a conversation. Four (4) participants were slightly satisfied with their abilities to articulate the intended words in a conversation with three (3) moderately satisfied. Only 2 of the respondents were fully satisfied with their abilities to articulate the

intended words in a conversation. Thus, this shows that more than two thirds 8(80%) of the ex-war soldiers suffered from possible articulation and phonological disorders (speech sound disorders) resulting from TBI. This is consistent with the study findings by Novac and Bushnik (2017) that showed that TBI causes many problems, among them speech and language disorders with typical effects including: slow or slurred speech, difficulty swallowing, drooling or a nasal tone, problems with finding the right words and trouble with understanding others. Spelling and writing can also be a problem. These communication problems vary, depending on an individual's personality, pre-injury abilities, and the severity of the brain damage (NIDCD, 1998).

Ex-war soldiers’ perception of TBI’s effect on their communications abilities

The table below illustrates personal opinions of the affected ex-war soldiers on effect of TBI condition on their communication abilities. This information is important for this study since QoL measures are highly subjective and hence based on people's perceptions and feelings.

Response rate	Not at All	Slightly	Moderately	Quite	Very
Category factor	F (%)	F (%)	F (%)	F (%)	F (%)
To what extent do you think your communication abilities have been affected by this condition (TBI)	0(0)	2 (20)	0(0)	5(50)	3 (30)

Table 2 Perception of TBI’s effect on communications abilities

Key:
Slight = Mild
Moderate = Moderate
Quite = Moderate to severe
Very = Severe

According to Table 2 above, more than a quarter of the respondents (3) felt that their communication abilities had been severely ‘very’ affected by the TBI condition, while half (5) of those felt that TBI had moderately to severely ‘quite’ affected their communication abilities with only 2 participants mildly ‘slightly’ affected. This shows that more than 80% of the respondents felt that their communication abilities had been moderately to severely affected by their TBI condition.

Observable Communication Disorders

The figure below is a brief analysis of the observable communication disorders characteristics among the interviewed participants. Observation tool kits were used to complement data collected using questionnaires and interviews. This was important for the researcher in providing information that could not be obtained the other tools.

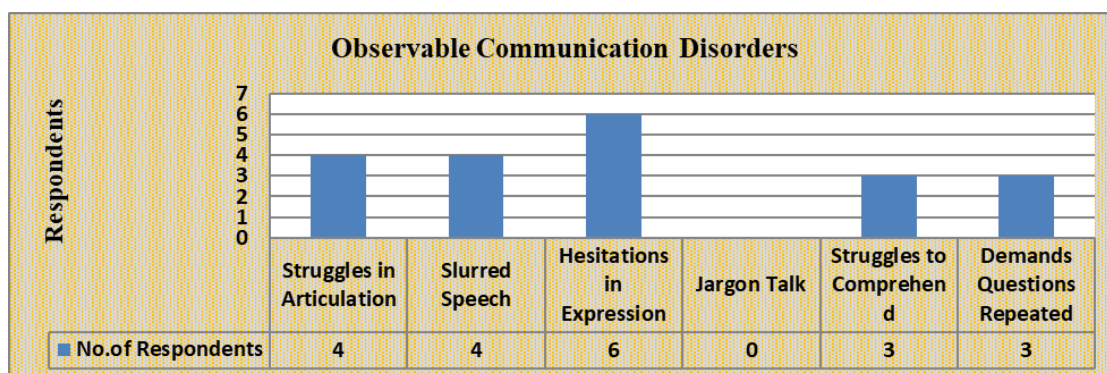


Figure 1 Observable Communication Disorders

Figure 1 above shows that more than half (6) of the respondent ex-war soldiers experienced hesitations while trying to express themselves with four (4) of those interviewed experiencing articulation challenges and slurred speech. This simply implies that more than half of ex-war soldiers with TBI experience expressive speech disorders with 4(40%) of others suffering from articulation and phonological disorders (speech sound disorders). It further observed that 3(30%) of the interviewed ex-war soldiers experienced struggles in comprehending speech and demanded questions asked repeated. This further implies that more than a quarter 3(30%) of ex-war soldiers with TBI were suffering from receptive communication disorders which might be compounded with hearing and memory deficiencies.

Specialists Perception of the Nature of TBI-Related Communication Disorders among the Ex-war Soldier's

Specialists offering specialist services to the ex-war soldiers were asked to describe the nature of speech/language communication disorders among them. Responses were coded L¹ and L² as shown below.

L¹.... *'he has selective memory, expressive inabilities and avoids conversations'*

L² ... *'he takes time to communicate and says little'*.

This implies that it is evident among the specialists that communication disorders ranging from expressive to receptive categories are prevalent among ex-war soldiers with TBI. For instance, selective memory impairs communication because comprehenders must retrieve items that have already been processed in order to fully integrate new information into an evolving interpretation. Naturally, limitations on memory storage and retrieval are important determinants of language performance (Dyke, 2012).

Caregivers Perception of the Nature of TBI-Related Speech /Language Disorders among the Ex-war Soldier's

Care givers were asked to describe how the respondents' current language and communication abilities differ from before they had TBI. Responses were coded as C¹, C² and C³ as shown below.

C¹ *'It is hard for him to say the intended words, he misses some words in a conversation, his biggest communication challenge is the ability to express himself'*

C²..... *'he takes a lot of time to express anything...it is not possible to know whether he understands everything in a conversation'*

C³... *'he is emotional when not understood'*.

The above responses reveal the intensity of expressive and receptive communication challenges among the affected soldiers and in particular articulatory and phonological communication disorders. Caregiver C² notes that it was not possible to know whether the respondent actually understood everything in a conversation. This reveals possibilities of presence of severe receptive communication disorders among the affected. It is important to note that the responses from the caregivers were to a greater extent consistent with those of the specialists hence a justification that TBI had a significant impact on the expressive and receptive communication abilities of the ex-war soldiers.

Ex-war Soldiers Current Work Status

The information on KDF ex-war soldiers' work status is important in this research because the ability to work and human productivity is a contributing factor to individual's functional wellbeing and QoL. The researcher assumed that TBI related conditions may contribute to one losing his/her job with little possibilities of being employed again.

The study found out that nearly three quarters of the respondents (70%) were not involved in any activity/ income generating activity to for a livelihood after TBI with the remaining (30%) which is slightly above a quarter of the respondents reporting that they were either doing business or farming for a living. This is attributed to the fact that there are three major problems that can arise after TBI: physical, cognitive and emotional/ behavioral problems (Novac & Bushnik, 2017). A speech and language disorder is a component of both the physical and cognitive impacts of TBI. It is important to note that all the interviewed respondent ex-war soldiers with TBI-related communication disorders were out of the Kenya Defence Forces service for one reason or the other. This implies that TBI and its resulting problems (which include speech/language disorders) have a great impact on the functional well-being of the ex-war soldiers hence lowering their quality of life.

Ex-war Soldier's Period of Work with the Kenya Defence Force

The information on period of work was necessary in revealing to the researcher the contributions of TBI to the current status of functional wellbeing of the ex-war soldiers bearing in mind that all of them worked for KDF until they had TBI /and or later.

The study found that nearly three quarters of the respondents (60%) worked for a period between (6-10) years in the Kenya Defence Force with all the other remaining categories of respondents working for less than an eighth (10%) of the total period before TBI. Thus 70% of the respondents had worked for KDF for a period of between 1 to 10 years which justifies why 50% of ex-war soldiers with TBI-related communication

disorders were below 40years of age. The study attributes this to the consequential impacts of TBI related conditions to the ex-war soldiers’ functional abilities.

Ex-war Soldiers’ Perception of the effects of communication disorders on their ability to Work

The table below is an analysis of responses of the ex-war soldiers’ perception of the effects communication disorders have on their abilities to work effectively. In order to understand the extent to which TBI-related communication disorders have affected ex-war soldiers’ functional wellbeing this information was necessary. Respondents were required to rate on a scale of 1-5 on how much communication disorders had affected their ability to work and on how much they were satisfied with their work life.

Response rate	Not at All 1	Slightly 2	Moderately3	Quite 4	Very 5
Category factor	F (%)	F (%)	F (%)	F (%)	F (%)
To what extent do you think communication disorder is affecting your ability to work	1(10) *** (30%)	1(10)	1(10)	2(20)	2 (20)

Response rate	Not at All 5	Slightly 4	Moderately3	Quite 2	Very 1
How happy are you with your work life	0(0) ***** (70%)	1(10)	1(10)	1(10)	0(0)

Table 4 Effects communication disorders have on ability to Work

Note: * Means that the respondent skipped/ignored the specific question.**

Table 4 above indicates that 50% of the participants who responded felt that communication disorders affected their ability to work ranging from 3 to 5. Of these, 2 of 5 rated this question 5 which implies that communication disorders had a severe impact on their Functional wellbeing. This generally implies that to a greater extent communication disorders had a substantive impact on the ex-war soldiers’ functional wellbeing and hence their QoL. On the other hand, all the participants (3) who responded to the second question felt that to some extent they were not happy with their work life with a rate ranging between 2 and 4. It was noted that a substantive number of the participants did not participate in answering these questions, which this study attributes to the fact that majority of the participants were not involved in any income generating activity and the emotions attached to the subject of one losing a job and the ability to be functional in life. This implies that TBI related conditions which include communication disorders have substantial effects on the functional wellbeing of the affected.

V. Discussion

According to the findings of this study, ex-war soldiers with TBI suffer from a broad spectrum of communication disorders ranging from expressive, receptive to mixed receptive-expressive disorders. It also showed that these TBI related communication disorders have a substantive effect on the functional wellbeing domain of their quality of life (QoL). This was evident by the fact that half of the respondents felt that communication disorders affected their ability to work. That a substantive number of others failed to participate in answering the question which this study attributed to the fact that majority of them were not involve in any income generating activities. That the study further attributed this to the emotions attached to the subject of many losing their jobs with the military after the TBI and the related inabilities to be functional in life.

VI. Conclusions

The study established that all the affected interviewed ex-war soldiers were no longer working for the military despite the fact that majority of them had not attained the mandatory retirement age. Also, half of all the interviewed soldiers were below 40 years of age with majority of them having worked for the military for only ten years or less attributing it majorly to their TBI condition and their inability to communicate effectively.

It was also revealed that TBI-related communication disorders rendered majority of ex-war soldiers unable to engage in income generating activities as a source of livelihood. This research has established that TBI and its related communication disorders have a great negative impact on the functional well-being of the ex-war soldiers leading low quality of life score.

It is therefore against these findings that the current study provides the basis and reasons for the provision of relevant life skills and knowledge among the ex-war soldiers to enable them live a meaningful and fulfilling life after TBI.

VII. Recommendations

Based on the findings of the study, the researcher recommends that:

- i) The government provides professional training to clinicians and other relevant health professionals dealing with TBI related ailments to equip them with adequate relevant skills, knowledge and expertise in enabling them make informed choices in the assessment and treatment of TBI related communication disorders.
- ii) The Ministry of Health and other related organizations to employ more speech therapists for efficient treatment of speech/language disorders and engagement with caregivers and important others with a goal to increasing the quality of life of the affected.
- iii) The Ministry of Defence develops a comprehensive support system for all ex-war soldiers with TBI-related conditions and their families in offering treatment, support and information services as a means to implement the right to access health care and to the highest attainable quality of healthcare products and services as enshrined in the Kenyan Constitution (2010) and the National Patients' Rights Charter (2013).

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