SUMMARY

Non-cardiac chest pain a common complaint presented at emergency departments and cardiac clinics. People with NCCP have been found to be more likely to have psychiatric problems than either the general public or those with chest pain due to organic origin. This study considers the Psychogenic Non-cardiac chest pain due to Bio-psychosocial factors and examines how the factors affect people with chest pain complaints. The study also takes an initiative in developing an intervention model for psychogenic NCCP patients for psychological health and pain management. The study was designed in a way to explore the Bio-psychosocial factors among NCCP and CCP, along with a normal group of healthy individuals. A complete clinical examination with lab work up was carried on the participants for grouping them under NCCP, CCP and NG. The exclusion and inclusion criteria facilitated for the grouping with at most care. The participants were briefed about the research and consent was obtained by them for their involvement in the study, and also the departmental heads of the hospital consented for the participants included in this study. As the NCCP and CCP groups where patients with chest pain, all the precautionary details were considered before administering the questionnaires.

Once the data was collected it was analyzed and an intervention program was developed meanwhile for psychogenic NCCP patients. The differences in the bio-psychosocial factors were obtained with the help of a demographic profile and standardized questionnaires and the data was analyzed to obtain the results to compare and see the differences among three groups. The descriptive statistics gave details about the baseline characteristics among NCCP, NCC and NG. Further analysis with chi square test helped I obtained the details of NCCP and CCP group for obtaining the Bio-social factors details about the group When NCCP and CCP groups were analyzed it shows that factors like age was highly significant at 0.001**, the other factors like family type, marital status and economic status were moderately significant at 0.05* level.

The psychological variables were studied among the groups and the differences showed that anxiety was moderately significant at 0.05* level. The other variables
like depression, perceived stress and Type ‘A’ behavior showed a difference in the mean values. It was observed that NCCP had a greater mean values than CCP, this indicated that psychological conditions in patients were prominent among NCCP patients compared to CCP patients. The analysis gave details about the differences in NCCP and CCP patients, and also the impact of the Bio-psychosocial factors were obtained with the help of logistic regression. The urban population, blood pressure and anxiety were the predictive factors for NCCP and age, high economic status, alcohol consumption and anxiety were the predictive factors for CCP.

The intervention developed specific to psychogenic NCCP patients was carried on under 6 stages, the program was scheduled for 12 weeks, with 24 sessions. The pre and post intervention results facilitated for seeing the differences in 18 cases, under case series method. The results indicated that anxiety and perceived stress showed a significant difference at 0.001**, and Type ‘A’ and depression showed a significant difference at 0.05*. The severity of pain measured also showed a significant difference at 0.001**. The intervention model was an initiative taken by the researcher in developing an intervention model for psychogenic NCCP patients. The results have indicated its benefit, but conclusions cannot be drawn because of a small sample for intervention under case series method.

The psychiatric reviews have emphasized the notion of mind and body connection, but the mechanisms of how psychological and physical factors interact remains unknown. The present study clearly indicates that various Bi-psychosocial factors play a very important role in maintaining physical and psychological health. Some of the factors could be affecting the individuals to an extent of hospitalization. The psychological and social factors should not be ignored, as most commonly it is observed that patients neglecting their health as soon as it is confirmed that there is no organic cause. Awareness program and health literacy should be taken forward for all to have knowledge about the importance of health and wellbeing.

Thus, this study gives details about the Bio-psychosocial factors responsible for NCCP and CCP, and also the predictive factors for NCCP and CCP in normal group. The intervention program shows its effectiveness in psychogenic NCCP group. The present study results may have practical benefits for psychological intervention for NCCP. Based on the findings, it can be added that Bio-psychosocial factors are
equally important for chest pain in both cardiac and non-cardiac chest pain. All the three interact together in maintenance and management of health and wellbeing. NCCP patients may be helped with psychological intervention. The health psychology should take responsibility not in just guidance and counseling, but the research should extend for clinical practice.
CONCLUSION

This study sought to explore Bio-psychosocial factors among NCCP and CCP group. It is a fact that Bio-psychosocial factors impact physical health. The Bio-psychosocial model helps in understanding the importance of all the three factors. The present study revealed some of the very important factors responsible for chest pain symptoms among NCCP and CCP patients. Psychogenic NCCP is seen in younger adults less than 40 years of age. As age progresses we see that CCP increases, reasons could be plenty related psycho social factors and also physical health status. Psychogenic NCCP is more among men compared to women. And it is observed that NCCP is more among men than women. This could be due to various lifestyle modifications in the present scenario.

It is observed that joint families suffer more from psychogenic NCCP and Nuclear families have more of CCP symptoms. Psychogenic NCCP is prevalent in urban areas.

Psychogenic NCCP is seen more among married population, various adjustments and responsibilities along with time constraints for home and job management could be the reason. Lower socioeconomic status suffers more from psychogenic NCCP, reasons could be non-availability of health care facilities and economic status may not allow for health care utilities. Unmarried people suffer from CCP more, reasons could be stress and anxiety and also their life styles.

Habits play a very crucial role in health management; Alcohol consumption is prevalent among psychogenic NCCP patients. If unattended then it can lead to various health issues. Smoking habit was absent in the majority of the Psychogenic NCCP patients in this sample, but if it present then it may affect health conditions.

Most of the psychogenic patients consumed vegetarian food. And non-vegetarian food consumptions led to heart disease that CCP. So care must be taken to limit consumption of Non-vegetarian food.

Blood pressure variations are common among psychogenic NCCP patients. The majority of NCCP patients was non diabetic. Blood pressure variations are common
among NCCP and this is easy to manage if care is taken by the patient with the help of the doctor. Diabetes usually gets complicated with associated problem that leads to CCP.

Anxiety can affect physical health and it is seen that it leads to various chest pains related ailments. Psychological factors like depression, perceived stress and Type ‘A’ can affect individual’s health and well-being.

The impact of Bio-psychosocial factors can affect a normal healthy individual, the predicted factors like anxiety, blood pressure and geographical region can lead to the NCCP.

NCCP focused supportive intervention facilitates for psychological health management.

The intervention model developed for Psychogenic NCCP patients can help in pain management.

Thus, these various factors examined helped in understanding the NCCP patients suffering due to Bio-psychosocial factors.

Better diagnosis and health care facilities should provide help in the management of Psychogenic NCCP at emergency departments in cardiac hospital settings.

Further research should be directed not only at more efficient ways of identifying causes of chest pain but more systematic evaluation of their symptoms.

Potential effects of therapeutic intervention and counseling should be suggested to patients at the hospitals.

As most of the psychogenic patients ignore the psychological conditions, a planned orientation on NCCP and its risk factors should be explained to the patients.

Intervention model specific to Psychogenic NCCP patients should be administered to the patients to help them manage their health and pain symptoms.

This study should facilitate for taking the research to clinical practice to manage psychological health and wellbeing of the general population.
This study should help in promoting psychological health through various orientation programs on Non cardiac chest pain.

Finally, it is important to note that participants in this study were limited to two hospitals, a large population based studies could help in drawing better conclusions about Psychogenic NCCP and impact of Bio-psychosocial factors.

Intervention program was also limited to just 18 cases, so planned intervention for larger groups could give better updates on its outcome so that it can be applied for various other pain related ailments.

Health psychology should not limit just to research and diagnosis, but also extend in health management and treatment.

It is very important for the hospitals to collaborate with psychology services, so that dealing with these clinical problems due to psycho-social factors can be managed by professional experts.
LIMITATIONS

The findings from this study (alongside the evidence from previous research) enable recommendations for changes in routine care of the patient.

The sample size could be increased for better understanding of the various factors responsible for chest pain complaints.

The baseline details could be more specific and many other characteristics could be included in the profile sheet.

Time constraints in the emergency departments are a big hindrance for communication with the patients.

The impact of health disturbance to the patients does not allow the researchers for further interaction after administration of questionnaires.

Biological factors other than blood pressure variation and diabetes should have been considered in understanding the relation to chest pain symptoms.

Social factors in detail should have been explored, to extract details in specific.

Psychological variables like Quality of life, self-esteem and many more could have been included in the study

Coping strategies of the patients could be tested to enhance their abilities in health management.

The patient population is always a challenge for researcher, as they are preoccupied with health worries.

Hospital authorities must give some liberties with certain limitations to the researcher for direct interaction with the patient.

Comparison between chest pain and any other pain group could have been done to understand the impact of Bio-psychosocial factors.

Intervention was limited to just NCCP group, if the CCP group was also considered then it would help in understanding the pain symptoms due to psychogenic origin.
Intervention was limited to a very few cases, if the sample size was increased, the effectiveness of intervention could have been explored in a better way.

Intervention model could have been tested with any other pain group like arthritis or somatoform, to see the effectiveness of the intervention program.

Health literacy is essential for all, if it is promoted through health care policy, then many of them health can take benefit for their health management.

Most of the research studies don’t exceed beyond the data, importance should be given to extend psychological intervention as required beyond research.

Awareness of psychological intervention is very minimum, unlike pharmacotherapy and other alternative methods of treatment.

Hospitals should collaborate with various other professionals like psychologists, social workers and counselors along with doctors, for giving better care for the patients.

Psychological treatments and therapeutic interventions should be included in health policies so that patients can benefit from them.

Unfortunately many of the psychiatric or psychological treatments and therapies are not included in a medical insurance policy.

The promotion of psychological health should be given priority as equal to physical health promotion programs.

Limitations were plenty, when prioritized the above mentioned ones should be taken seriously for promotion of good physical and mental health of an individual.
IMPLICATIONS OF THE STUDY

Assessing the patients with chest pain is a very challenging endeavor.

It is very important to treat the pain symptoms with at most clarity.

It is of vital importance if the patient is to be adequately treated at the emergency situations.

Most of the patients with NCCP usually rush to the emergency departments fearing it to be heart related issue, so at most care should be taken to first handle the fear in patients.

It just takes a few minutes to assess pain; the communication with the patient should be in detail, as it can serve as a point of easy assessment.

Psychosocial factors seem to be associated with psychogenic NCCP, and a thorough investigation helps in exploring the various factors.

Health care professionals should consider these psychosocial factors when the patient seeks care.

Screening with the help of questionnaire to complement medical examinations is a must for identification of patients at risk, Linton and Boerama (2004)

Most of the times, both patients and the clinicians overlook the causal factors of Non organic causes, at most care should be paid to the psychosocial factors.

Screening may be a mini analysis for ruling out certain factors and narrowing down the process to focus on the causal factors.

Psychological intervention using a problem focused group helps in not just treating but also giving awareness about health management and pain management.

The psychological conditions are improved with the help of therapy and counseling, and thus helps in pain management.

In the process of care and treatment, the bridge connecting the body, mind and life around should be constituted. (Kleinman, 1998; Scott, 2001)
FUTURE DIRECTIONS

This thesis focuses on variables, perceived stress, Type ‘A’ behavior patterns, anxiety and depression. It can be examined with various other social and biological factors for better understanding of NCCP due to psychogenic factors.

Research concerning other variables and its relationship with NCCP should be examined to achieve a more comprehensive picture of the origin and maintenance of the symptoms.

Longitudinal studies aimed at examining the relationship between coping strategies and NCCP would be of great help to further our knowledge about how these patients handle stressful events in everyday life.

There is also a need for the development of questionnaires to assess the pain symptoms and psychological conditions in emergency situations at hospital set ups.

There is absolute need for developing and testing of different models of care for patients with NCCP in order to find out what works better.

More research aspiring to develop a standardized classification of chest pain characteristics in NCCP patients that would accurately distinguish NCCP patients from CCP patients is required.

Evidence based practice has to be incorporated at different points along with the patient pathway.

There are various models and intervention programs to treat NCCP, but it has to be problem focused to treat a problem in specific that is causing pain.

Follow up for patients is a must to a certain period of time for complete recovery and also to enhance their knowledge about health management.

Due to the multi-dimensional factors associated with NCCP, factors should not be examined in isolation. A cross-disciplinary approach is necessary.

The sample of NCCP can be more specific, like anxiety, stress or depression, so that problem focused intervention programs can be developed to treat NCCP.
In order to limit selection bias, patients should be recruited from a wide variety of settings including hospitals, clinics, outpatient departments and primary care centers.

NCCP focused supportive intervention model can be modified to the requirement of CCP patients and tested if it helps in health management and in reducing pain symptoms.

There should be a collaboration of cardiologists and psychologists along with physicians in the management of health care services.

Further exploration of the doctor’s perspective in managing NCCP is needed so that barriers and facilitators to improved management can be determined.

The best setting for the management of NCCP needs to be determined. The general practitioner is likely to be valuable in bridging between specialties.

Interventions that are acceptable to patients need to be developed so that it serves the purpose as required to the patient’s condition.

Interventions for NCCP patients can be tailored appropriately with the help of health care professionals.
PERSONAL REFLECTIONS

On a personal level, I feel I have been fortunate enough to have gained considerable insight into the experience of Psychogenic Non-cardiac chest pain. Having learned to deal with the challenges encountered in conducting research in a clinical setting. Understanding of chest pain and health management helped in not only gaining knowledge but also in developing intervention model.

The health care professionals at hospitals gave support and encouragement in doing the research. The medical staff and nursing care were guiding and supporting whenever I approached them for assistance. At times the lack of clinical expertise did not allow me in managing the patients, when they looked to me for guidance on their symptoms. But whenever possible anything related to counseling and guidance, I have been able to help them to a certain extent, within the limitations set by the hospital for researchers.

A biggest struggle for me was a quick realization that our current health system lacks structure and supports to care for the psychosocial needs of patients. This is not just unique to NCCP patients, but seen with many other unexplained symptoms and conditions. In my experience with the research work, what I saw was some are very caring and highly skilled medical practitioners working with patients, but they are not equipped and they do not have the resources to manage these patients effectively.

Unfortunately so many hospitals with emergency departments do not have an in-house psychologist or counselors, who could help patients during the crucial conditions concerning both their physical and psychological health.

It is very important to take this research to clinical practice so that health literacy can help in giving knowledge and awareness not only to patients but also in spreading the importance of Health and well-being of both physical and psychological origins.

The psychological intervention programs should be easily available in hospitals and clinics so that patients can benefit from it. Recommendations have to be made to bring these intervention models in health care policy. Health psychologists should promote psychological services through health literacy programs.