"Assessment of anxiety and daily living activities among adult patient with Rheumatoid arthritis in a selected clinic, Kolkata,West Bengal."

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Abstract:

Background: *Rheumatoid arthritis is an autoimmune, long term, progressive, disabling disorder which mainly affects the joints. It can also produce systemic symptoms and is associated with significant morbidity, mortality and decreased quality of life and ability to perform work. Patients with Rheumatoid arthritis suffer from joint pain, immobility, fatigue and functional disability.*

Materials and Methods: *The investigator conducted a cross sectional study on assessment of anxiety and daily living activities among adult patient with Rheumatoid arthritis in a selected clinic of Kolkata, West Bengal with the objectives to assess the level of anxiety and level of daily living activities among adult patients with Rheumatoid arthritis. Data was collected from 112 adult patient with Rheumatoid arthritis who were attending the Rheumatology OPD, selected by non-probability convenient sampling technique, with the help of structured interview schedule and standardized modified Hospital Anxiety and Depression Scale, Lawton Brody Instrumental Daily Living activities and Katz Index of Independence in Activities of daily living.*

Result: *The study findings revealed that 40.17% Rheumatoid arthritis patients were suffering from borderline anxiety, 39.28% patients were suffering from abnormal anxiety and 20.53% patients were suffering from general anxiety. Findings also showed that Daily living activities of adult Rheumatoid arthritis patients 17.86% were very dependent level of activities and 82.14% independent level of activities among independent 51.78% were mildly independent level of activities, 26.78% of patients were moderately independent level of activities and only 3.57% of patients were independent. There was statistically significant association found between anxiety and some selected demographic variables and also there was statistical significant association between daily living activities and some selected demographic variables as evidence by Chi-square value (P< 0.05). Findings also showed that there was a moderately positive relationship of patient's anxiety and daily living activities as evidence by Correlation and coefficient value. Age, sex, occupation, per capita income and duration of illness are significantly associated with anxiety of a patient with Rheumatoid arthritis. Sex and duration of illness are significantly associated with daily living activities of a patient with Rheumatoid arthritis.*

Conclusion: *Considering the findings the study could be implicated in different areas of Nursing - Nursing Education, Administration, Practice and Research as it can be helpful in identifying anxiety and daily living activities. If the nurses, the largest health care provider are able to recognize and handle the overwhelming anxiety of the patient, obviously the overall quality of health care will improve and can help the patients to overcome the detrimental effects on the physical, psychological and social wellbeing. A comparative study can be conducted between abilities of daily living activities of male patient and female patient.*

Key Ward: *Anxiety, Daily living activities.*

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I. Introduction

WHO has defined Rheumatoid arthritis is a chronic systemic disease that affects the joints, connective tissues, muscle, tendons, and fibrous tissue. It tends to strike during the most productive years of adulthood, and is a chronic disabling condition often causing pain and deformity.

Rheumatoid arthritis is an autoimmune, inflammatory which means that your immune system attacks healthy cells in your body by mistake, causing inflammation (painful swelling) in the affected parts of the body and disabling disorder which mainly affects the joints. Rheumatoid arthritis mainly attacks the joints, usually many joints at once. It can also produce systemic symptoms and is associated with significant morbidity, mortality and decreased quality of life and ability to perform work. Patients with Rheumatoid arthritis suffer

from joint pain, immobility, fatigue and functional disability.

Physicians have since long occupied the role of single handed determining the outcomes in medicine. The patient's response to therapy or future prognosis have traditionally been measured by physical examination and laboratory tests to determine the patient status. For many decades in the past century, lack of drugs specifically designed to treat rheumatic diseases kept rheumatology in a long lethargy, where the doctor was more like a 'thaumaturgus'- miracle worker with limited therapeutic possibilities. Rheumatoid arthritis was managed earlier with traditional painkiller like non-steroidal anti-inflammatory drugs which do not contribute to arrest the progression of the illness. However with the advent of disease modified anti rheumatoid drugs there has been a more promising outlook in the pharmacological management of the disease1.

It occurs when a person's immune system mistakes the body's healthy tissues for foreign invaders. As the immune system responds, inflammation occurs in the target tissue or organ and the case of Rheumatoid arthritis, this can be the joints, lungs, eyes, and heart. Common symptoms include stiffness of joint, especially upon getting up in the morning, after sitting down for a long time. Some people often experience fatigue and general feeling of being unwell. These patients show different degrees of difficulties in performing activities of daily living as the disease has a considerable impact on the activities of daily living. The patient with Rheumatoid arthritis are unable to maintain their daily living activities and they also suffering from disease related anxiety also act as a hinder to maintain daily living activities so assumes that adult patient have some anxiety and some have difficulty in daily living activities needs to improve ability to do daily activities and to reduce anxiety through various awareness program.

II. Materials and Methods

A cross sectional study was carried out to assess anxiety and daily living activities of adult Rheumatoid arthritis patient of a selected clinic, Kolkata, West Bengal. This study was conducted at Rheumatology OPD,S.S.K.M Hospital, Kolkata. In this study 112 adult Rheumatoid arthritis patient were included by using convenient sampling technique, from Rheumatology OPD both adult male and female Rheumatoid arthritis patient were included in the study.

Sample size calculation: Pilot study was done to assess the feasibility of the study. Sample size was calculated by using power analysis. The power analysis used with 5% level of significance. The power analysis revealed sample size 67. Where samples were taken 112. Samples were selected by convenience sampling technique.

Subject and selection method: Subjects are selected from Rheumatology OPD, adult patient with rheumatoid arthritis attending OPD for treatment or check up.

Inclusion criteria:
1.Adult patient with Rheumatoid arthritis. 2.Who are willing to participate.
3.Who are understand and speak English or Bengali. 4.Available during study period.

Exclusion criteria:
1.The adult critically ill patient, patients suffering from other types of arthritis.

Procedure Methodology: Permission was obtained from respective authority to use these three standardized tools for the present study. Ethical permission was taken from Ethics Committee. Informed consent was taken from patient. Anonymity and confidentiality were assured. Administrative permission was taken from Rheumatology department of SSKM Hospital.Data were collected through three self administered questionnaires. Demographic information was collected   through one self prepared validated reliable tool which consisted of 12 items.

Anxiety refers to emotion characterized by feelings of tension, worried thoughts, fear, worthlessness, unease, restless, physical changes and anhedonia that are symptomatic of several forms of mental illness assessed by modified Hospital anxiety and Depression Scale.

Daily Living activities:

In this study daily living activities refers to the things we normally do in daily living including any daily activity we perform for self-care such as feeding ourselves, bathing, dressing, grooming, work, homemaking, and leisure assessed by Lawton-Brody Instrumental Activities of Daily Living and KARZ Index of Independence in Activities of Daily Living.

The reliability of both standardized tools were established by internal consistency and 'r' was calculated by Cronbach's Alpha method and the result were 0.73 and 0.85 respectively. Therefore, both of the tools were

reliable.

Statistical Analysis:

Data were analyzed by using SPSS version 23. Frequency distribution was used to identify the prevalence of anxiety and daily living activities among adult patients with Rheumatoid arthritis. Mean and frequency percentage were calculated in the different areas on anxiety and daily living activities. In addition Pearson's 'r' was calculated to find out the relationship between anxiety and daily living activities and Chi square was calculated to find out association between the levels of anxiety and selected demographic variables and to find the association between daily living activities and selected demographic variables.

III. Result

Data presented in Table 1 indicated that 33.92% Rheumatoid arthritis patients belonged to the age group 41-50 years where as 24.1% patients are in 31- 40 years of age group. Data also revealed that about 68.75% of Rheumatoid arthritis patients were female and 31.25% in male. Data depicted that 79.46%of Rheumatoid arthritis patients were from Hindu religion. Data also showed that most of the Rheumatoid arthritis patients that is 80.35% were married, 4.46% widowed Data revealed that 33% Rheumatoid arthritis patient's educational qualification up to Class-VIII, and only 7% patients had no formal education.

Table -1 Frequency and percentage distribution of demographic characteristic in terms of age, sex, religion, marital status and educational qualification of adult Rheumatoid arthritis patients.

N=112

| Sl No	Demographic Characteristic	Sample	Frequency	Percentage (%)
1.	Age (in Years)	20-29 years	21	18.85 %
		30-39 years	27	24.10 %
		40-49years	38	33.92 %
		50-59years	26	23.22 %
2.	Sex	Male	35	31.25 %
		Female	77	68.75 %
3.	Religion	Hindu	89	79.46%
		Muslim	23	20.54 %
4.	Marital status	Married	90	80.35 %
		Unmarried	10	8.94 %
		Widowed	5	4.46 %
		Divorcee	7	6.25 %
5.	Educational Qualification	No formal education	7	6.25 %
		Just literate	9	8.00 %
		Class IV-VIII	46	41.00 %
		Class IX-XII	36	32.24 %
		H.S. and above.	14	12.51 %
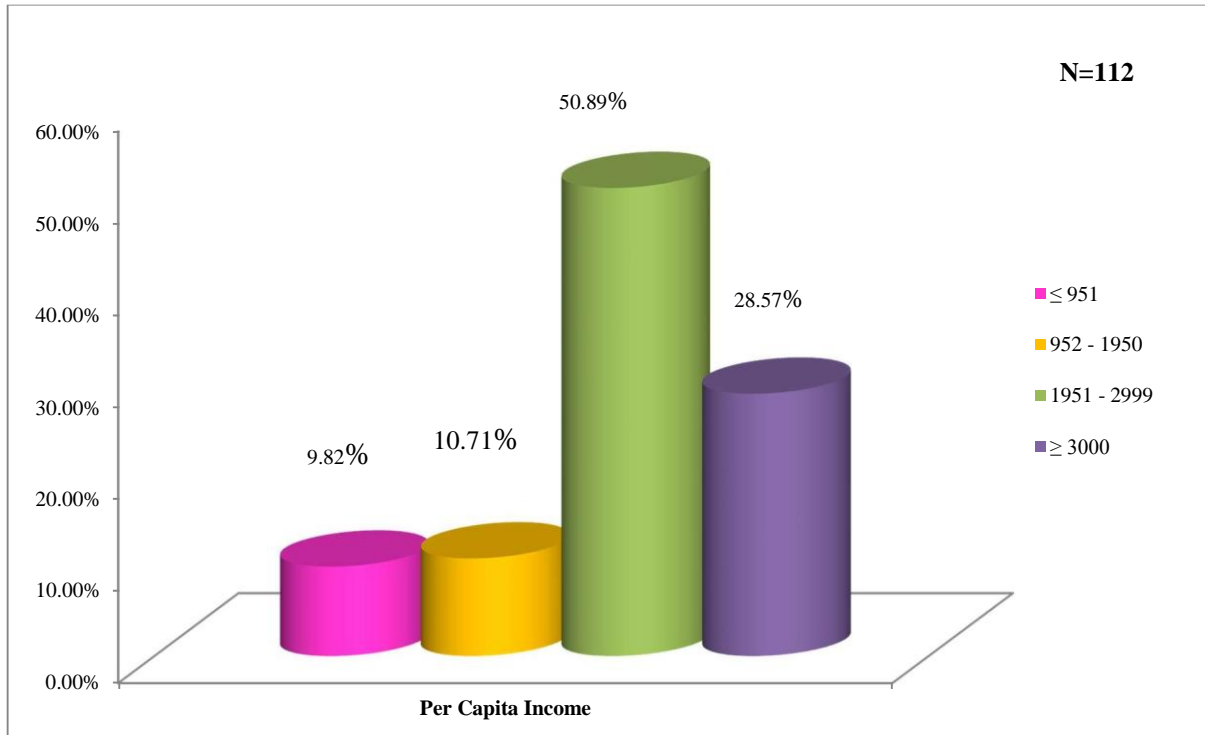
Figure – 1: Cylindrical bar diagram showing frequency and percentage distribution of adult Rheumatoid arthritis patients in terms of per capita income.

The data showed in the figure-1 that per capita income of the patients was in the range of 1951-2999 which is about 50.89% of the total Rheumatoid arthritis patients whereas 9.82% of the patients were in the income group
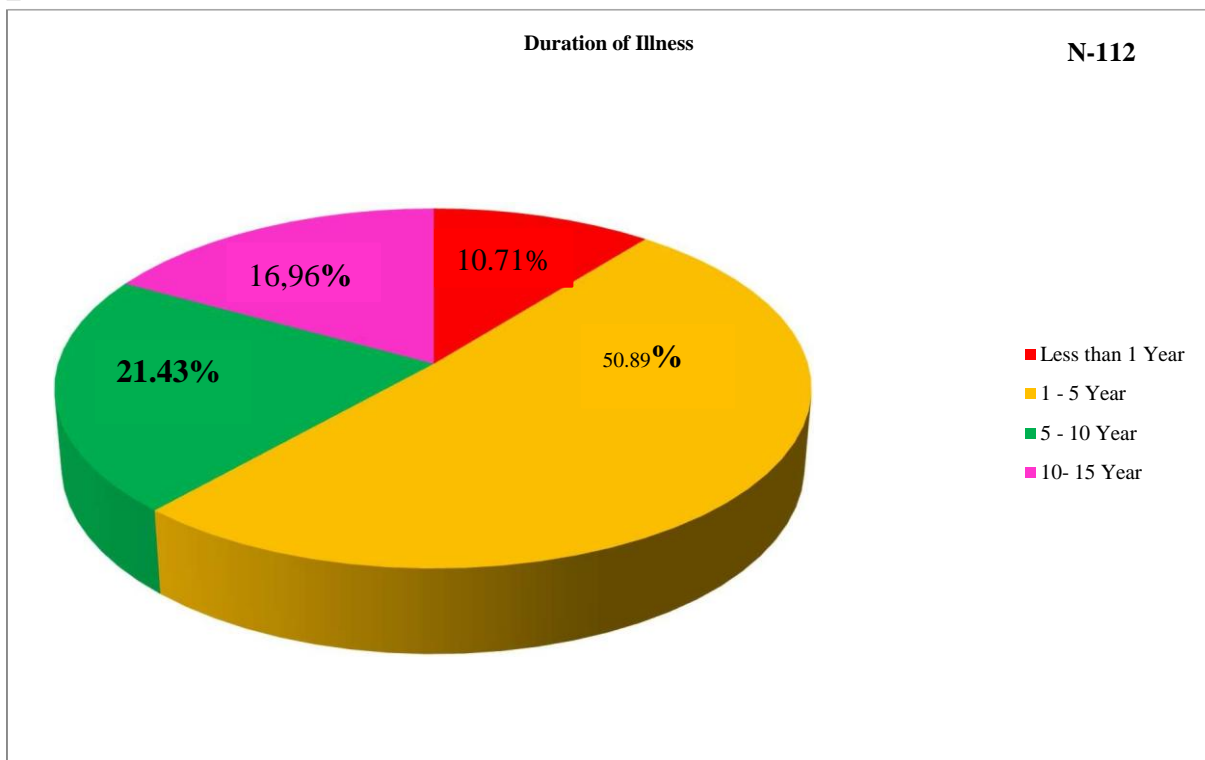≤ 951.

Figure – 2: Pie diagram showing percentage distribution of adult Rheumatoid arthritis patients in terms of duration of illness.

Data presented in above figure showed that 57 out of 112 that is 50.89% were suffering from the illness for 5 years or less, and only 10.71% had the experience of the illness for less than 1 year.

The data presented in table 2 showed that among 62 out of 112 that is 55.36% Rheumatoid arthritis patients were home maker, whereas 12 out of 112 that is 10.71% were service holder.
The data also revealed that of Rheumatoid arthritis patients 61 out of 112 almost 54.46% were from nuclear family and 45.53% of patients are from the joint family.
The above table revealed that majority of the adult Rheumatoid arthritis patient that is 59.82% respondent had a family history of Rheumatoid arthritis.
The above data presented in table also showed that 35.71% adult Rheumatoid arthritis patients were suffering from any other type of chronic disease.

Table–2: Showing frequency and percentage distribution of adult Rheumatoid arthritis patients in terms of occupation, family type, family history of Rheumatoid arthritis and any other chronic disease apart from Rheumatoid arthritis.

N=112

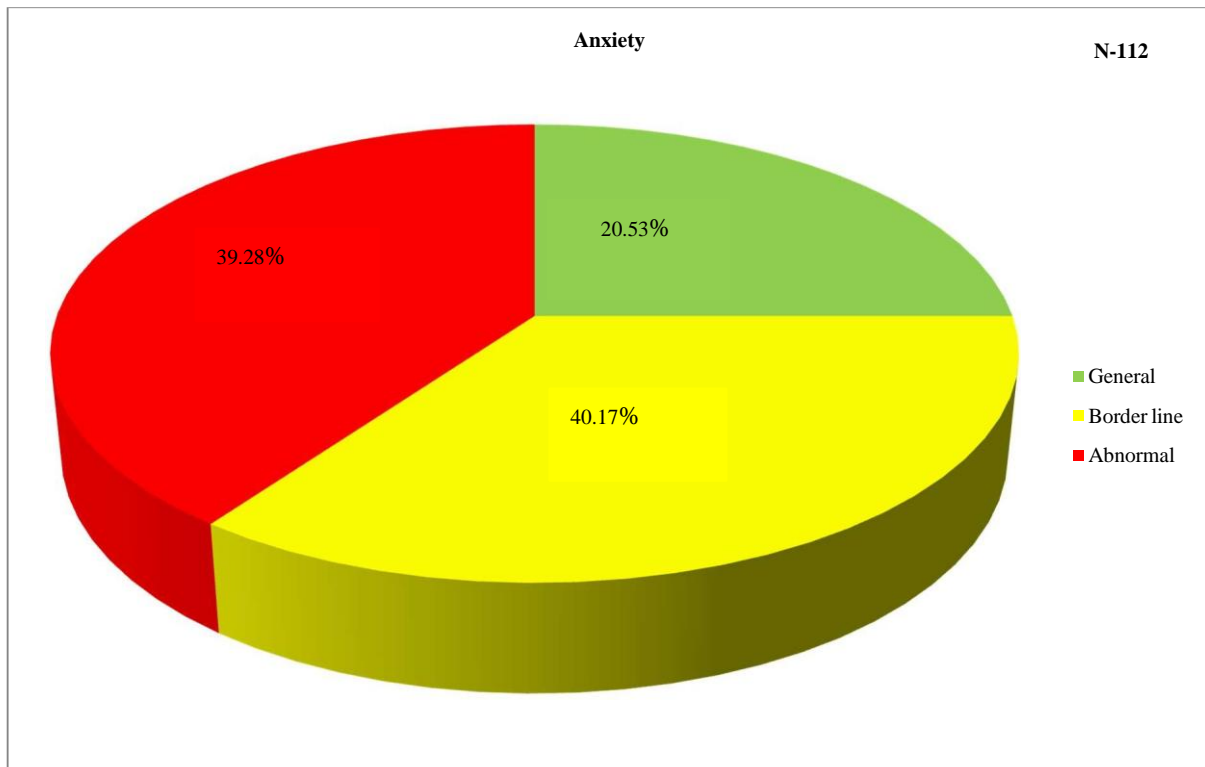| Sl. No.	Characteristic	Sample	Frequency	Percentage (%)
1.	Occupation	Service	12	10.71%
		Business	25	22.32%
		Labour	13	11.61%
		Home maker	62	55.36%
2.	Family Type	Nuclear	61	54.46%
		Joint	51	45.54%
3.	History of Rheumatoid arthritis in the family	Yes	67	59.82%
4.	Any other Chronic Disease	Yes	40	35.71%

Figure – 3 : Pie diagram showing frequency and percentage distribution of adult Rheumatoid arthritis patients in terms of anxiety.

Above figure showed that 40.17% adult Rheumatoid arthritis patients were suffering from borderline anxiety, 20.53% patients were suffering from general anxiety and 39.28% patients were suffering from abnormal anxiety.
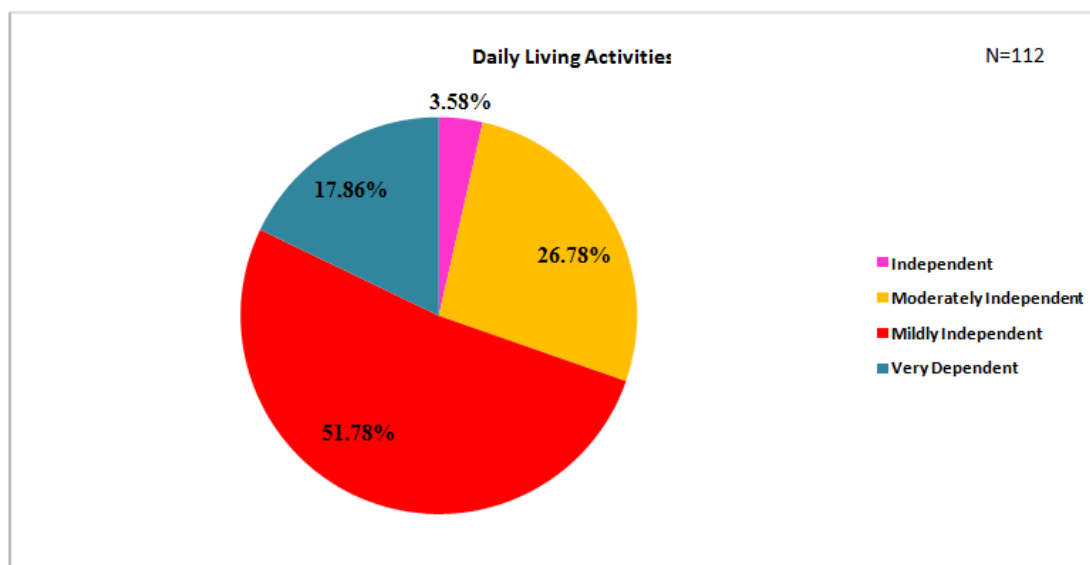

Figure –4: Pie diagram showing percentage distribution of adult rheumatoid patient in terms of daily living activities.

Data presented in above figure indicates that 17.86% adult Rheumatoid arthritis patients were very dependent level of activities, where as51.78% of patients mildly independent level of activities, 26.78% of patients were moderately independent activities and only 3.57% of patients were independent.

In table 6 it indicates that there is moderately positive relationship between anxiety and daily living activities among adult patient with Rheumatoid arthritis of selected clinic which is found to be statistically significant evident from 't' test value (2.183) which is greater than table value at 0.05 level of significance. So there is positive relation between anxiety and daily living activities at 0.05 level of significance.

Correlation and coefficient value showed relation between anxiety and daily living activities of adult patient with Rheumatoid arthritis.

Table – 6 : Mean, standard deviation, 'r' value and 't' value of anxiety with daily living activities of adult patient with Rheumatoid arthritis.

Variables	Mean	SD	'r'	t' test value
Anxiety	9.8			
		3.29	0.2	2.183*
Daily living activities	2.8	1.56		

Table value (df)110= 0.4801 P< 0.05.

The data presented in table 6 indicate that mean score of anxiety was 9.8 with standard deviation 3.29 and mean score of daily living activities was 2.8 with standard deviation 1.56.

It also indicate that there is moderately positive relationship between anxiety and daily living activities of adult patient with Rheumatoid arthritis of selected clinic which is found to be statistically significant evident from 't' test value (2.183) which is greater than table value at 0.05 level of significance.

The data presented in table 7 showed that there was association between anxiety with age, sex, occupation, per capita income and duration of illness of adult patient with Rheumatoid arthritis which was statistically significant at 0.05 level of significance as obtained values were higher from the table value.

Table –7: Chi-square value shows association between the level of anxiety and selected demographic variables.

N=112

Sl No	Variables	Chi-square	df	alpha value	table value
1.	Age	12.59*	3	0.05	7.82
2.	Sex	4.9575*	1	0.05	3.84
3.	Religion	3.4546	1	0.05	3.84
4.	Type of Family	0.272	1	0.05	3.84

Sl No	Variables	Chi-square	df	alpha value	table value
5.	Education	1.035	3	0.05	7.82
6.	Marital status	1.024	3	0.05	7.82
7	Occupation	8.089*	3	0.05	7.82
8	Per Capita income	6.2996*	1	0.05	3.84
9.	Duration of illness	31.4848*	3	0.05	7.82
10.	Family history	0.3055	1	0.05	3.84
11.	Chronic illness	0.0546	1	0.05	3.84

$P < 0.05$

The data presented in table 8 showed that there was association between daily living activities and sex, duration of illness and other chronic disease apart from Rheumatoid arthritis of adult Rheumatoid arthritis patient which was statistically significant at 0.05 level of significance as obtained values were higher from the table value.

Table -8:Chi-square value shows association between daily living activities and selected demographic variables.

Sl No	Variables	Chi-square	df	Alpha value	Table value
1.	Age	1.487	1	0.05	3.84
2.	Sex	4.394*	1	0.05	3.84
3.	Religion	0.850	1	0.05	3.84
4.	Marital status	0.9573	3	0.05	7.82
5.	Type of family	0.1944	1	0.05	3.84
6.	Education	6.7988	4	0.05	9.49
7.	Occupation	5.412	3	0.05	7.82

8.	Per capita income	2.6022	1	0.05	3.84
9.	Duration of illness	13.8488*	3	0.05	7.82
10.	Family history	1.8119	1	0.05	3.84
11.	Chronic illness	4.1136*	1	0.05	3.84

P< 0.05 *S= Significance

IV. Discussion

Present study findings revealed that 40.17% of adult Rheumatoid arthritis patient suffered from borderline anxiety. This study also related that Daily living activities of adult Rheumatoid arthritis patient 82.14% adult Rheumatoid arthritis patients were independent level of activities and 17.86% were dependent, among independent 51.78% mildly independent level of activities,26.78% of patients were moderately independent levels of activities and only 3.57% of patients were independent, and 17.86% patients were very dependent. In the present study, a significant relationship was found between anxiety and daily living activities (r= 0.2) which denote the moderately positive relationship between variables.

Based on findings and objectives of the present study it was revealed that the persons who were suffering from rheumatoid arthritis experienced anxiety and the finding was supported by the study conducted by El- Miedany YM et al. where it was revealed that anxiety levels were significantly higher that is 70% of cases in patients with Rheumatoid arthritis.

This study was supported by a study conducted by El-Miedany YM et al.revealed that depression was diagnosed in 66.2% of total sample while anxiety was diagnosed in 70%. This study also revealed that psychiatric illness such as anxiety is a relatively more common disorder in patient with Rheumatoid arthritis with a frequency higher than that of other medical condition41.

In the present study, the scope of this study was to assess daily living activities of adult Rheumatoid arthritis patients the functional disability were found that 82.14% were independent and 17.86% dependent among independent 51.78% mildly independent level of activities, 26.78% of patients were moderately independent, 17.86% were very dependent level of activities and only 3.57% of respondents had independent. Some demographic variables which are sex and duration of illness and other chronic illness are significantly associated with functional disability.

M Kauppi et al. conducted a study to assess the functional capacity for daily living activities in people with clinical rheumatoid arthritis data were collected using Lawton and Brody Instrumental Activities of Daily Living. Study result were indicated that 19% Rheumatoid arthritis patient had very poor functional ability, 44% could not dress themselves without help, 19% were unable to walk, 31%could not climb stairs42.

This study is similar with the present study in aspect of assessing the daily living activities of Rheumatoid arthritis patients and study results indicated that level of functional disabilities. This study support the present study.

The present study revealed that there was significant association between anxiety and the age, sex,

Occupation, per capita income, and duration of illness of the Rheumatoid arthritis patients and the findings was supported by the study conducted byYoung A et al.

A study conducted by Young A et al.on function and how this affecton major aspect of patient lives to assess the impact of rheumatoid arthritis among 732 patient from Rheumatology outpatient department in nine national health services Trust Hospital in England. The study revealed that 27% work disability was seen in those patient with Rheumatoid arthritis43.

Present study revealed that there are moderately positive relationship between anxiety and daily living activities and it was found statistically significant as'r'= 0.2 which denotes the positive relationship between variables.

A study was conducted by Peterson Steve et al. on the multifaceted impact of anxiety and depression on patients with Rheumatoid arthritis. The study revealed that there concomitant anxiety was associated with a significant incremental impact on health related quality of life, had greater impairment in work, usual activity and greater disability, and economic aspects of life of patients with Rheumatoid arthritis44.

This study also revealed that there was significant association of anxiety level and Sex, occupation, per capita income and duration of illness are statistically significant and that was supported by the study conducted

by Kelly BD(2006).

This study was supported by the study conducted by Kelly BD et al. to assess anxiety, depression and arthritis related disability and perceived social support in 68 adult patient with rheumatoid arthritis. This study revealed that 44.4% had evidence of anxiety (17.8% moderate and severe). Both anxiety and depression were correlated with several measures of functional disability. The study also revealed that there was association between age, gender, marital status, duration of arthritis perceived social support and Rheumatoid arthritis45.

The study findings also revealed that there was no genetic influence (family history of rheumatoid arthritis among the patients.

In the present study Chi-square test revealed that sex, duration of illness, and other chronic illness are significantly associated with anxiety of the adult rheumatoid arthritis patients.

M Kauppim et al Katchamart-2020- International Journal of Rheumatic Diseases conducted a study on prevalence and factors associated with depression and anxiety among Thai rheumatoid arthritis patients during the September 2016 –march 2018. Depression and anxiety was assessed using Hospital Anxiety and depression Scale. Study result indicated 14.5% patients had anxiety. This study result also were significantly associated functional disability and disease duration with the anxiety of patient with rheumatoid arthritis4

V. Conclusion
On the basis of the study findings from the data analyzed the following conclusion can be drawn Anxiety among adult patient with Rheumatoid arthritis is prevalent and serious problem arise with progression of disease process. Continuous assessment over the course of disease is needed. On the basis of the findings of the present study it can be concluded that adult patients with Rheumatoid arthritis perceived considerable amount of anxiety who were attending the arthritis clinic. This is common and clinically relevant, which are significantly associated with identifiable demographic variables. There are 40.17% adult Rheumatoid arthritis patients are suffering from borderline anxiety. Rheumatoid arthritis patients are mostly unable to perform their own daily living activities independently. They need moral support and assistance in doing their daily living activities. Most of the adult Rheumatoid arthritis patients of about 82.14% were independent, and 17.86% were dependent level of activities, among independent 51.78% mildly independent level of activities, 26.78% of patients were moderately independent activities and only 3.57% of patients were absolutely independent, and 17.86% patients were very dependent. There was a relationship between anxiety and daily living activities of Rheumatoid arthritis patients who were attending the arthritis clinic. There was a significant association found between level of anxiety and age, sex, occupation, per capita income and duration illness of the patients. The person who were the lower age group experienced higher level of anxiety.
Future research in this area is needed, which will further enlighten and add on clarity on the potential long term impact of anxiety for the Rheumatoid arthritis patients so as to help health professionals to identify vulnerable group for detection, diagnosis and providing interventions on anxiety of Rheumatoid arthritis patients.

Author's Contribution:
MM conceived the study, designed methodology, organize and contributed in data analysis, guiding treatment administration, supervised the research work, and correction of manuscript.
Dali Ghosh wrote proposal, plan and executed the experimentation. She also had done data collection, data management and reporting. She constructed the manuscript.
MK did substantive contribution in constructing the idea, planning research design, took responsibilities in logical, interpretation and presentation of results, finalization of research.

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