DESIGN AND METHODOLOGY

The purpose of the present study was to explore the effect of coping on quality of life of arthritis patients. Hypothesis regarding coping has been formulated in chapter III, predicting that different types of coping would have different impact on quality of life of arthritis patients. Therefore, three types of coping i.e. religious coping (RC), emotion focused coping (EFC), and problem focused coping (PFC) was measured. Since the moderate pain patients were the major focus, pain related questionnaire and different coping scales were used and later on the impact of arthritis and arthritis related quality of life were measured. Keeping in mind the above described variables following design was used.

**Design:** A multi-group design having three groups of moderate pain arthritis patients adopting religious coping, problem focused coping and emotion focused coping was employed. Later on same design was employed using high pain and low pain patients.

**Sample:** A mixed gender group having 447 females and 260 males of total 707 diagnosed patients having arthritis of any type in an age range of 15-65 years (mean age=46.72) was taken from PGIMS, Rohtak, Civil Hospital, Rohtak, and from many other places of Haryana. They were given a pain scale, two coping scales related to three types of copings, arthritis impact scale and QOL scale. Now the Ss having moderate intensity of pain who have adopted any one coping i.e. either religious, problem focused or emotion focused coping being high on it than the other coping strategies, were selected to form three groups for further research. For the main objective following sample was selected (Fig. 1).

![Fig. 1: Showing the Schematic diagram of sample of Moderate pain patients](image)

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For the analysis of high and low pain patients the sample was drawn in the same way (Fig. 2 and Fig. 3).

![Diagram of sample of High pain patients and Low pain patients]

**Fig. 2: Showing the Schematic diagram of sample of High pain patients**

**Fig. 3: Showing the Schematic diagram of sample Low pain patients**

**Tools:**

1. **Rheumatoid Arthritis Pain Scale (RAPS)** was developed by Anderson (2000) having self reported 24 items related to pain and arthritis. This is composed of theoretical subscales that represent indicators of the total pain experiences unique to rheumatoid arthritis. The subscales includes physiologic, affective, sensory-discriminative, and cognitive component. The **physiologic component** (refers to the clinical manifestations of arthritis and include morning stiffness; pain or motion, tenderness at one point or more; swelling of one joint; swelling of at least one other joint; symmetric joint swelling; and level of fatigue and malaise); **affective component** (describes the immediate affective stage, the moment-by-moment unpleasantness, distress, and annoyance that closely co-vary with the intensity of the painful sensation. This stage includes present and short-term fear and anxiety related to the implication of pain); **sensory-discriminative component** (represents the intensity, duration, location and quality of pain sensations); and **cognitive components** (refers to the secondary stage of pain-related affect, based on more cognitive processes related to remembered or imagined things. It includes long-term, more elaborate implications of having pain, such as depression, freedom, how Pain influences life activity and self-esteem. It also encompasses memories and past experiences. This is the stage that may be thought as suffering). Using these subscales,
RAPS was developed as a single score instrument that could be incorporated into the evaluation of the patients with arthritis.

However, it does not give separate score on various components. For each item there are 7 categories of responding from 0 to 6 where 0= no pain and 6=always pain. Items were scored using a 7-point Likert scale “never” to “always”. The total score finally indicates the degree of pain. Its internal consistency is high for total scale i.e. 0.92 using Cronbach’s alpha coefficient. It has moderate concurrent and construct validity.

2. Ways of Coping (Revised) Questionnaire was developed by Folkman and Lazarus (1980). This questionnaire is based on a definition of coping as the cognitive and behavioral efforts to manage specific external and/or internal demands appraised as taxing or exceeding the resources of the individual. This definition has four key features of coping (i) it is process oriented (ii) it speaks of management rather than mastery, (iii) it makes no a priori judgment about the quality of coping processes; and (iv) it implies a stress based distinction between copings and automatic adaptive behaviors. So coping as a process is directed toward what an individual actually thinks and does within the context of a specific encounter and how these thoughts and actions change as the encounter unfolds.

It consists of 66 items related to two types of coping i.e. problem focused and emotion focused coping. These two types of coping have further divisions. Problem focused coping includes items pertaining to: confrontive coping, seeking social support and planful problem solving. Emotion focused coping also measures: positive reappraisal, distancing, self controlling, accepting responsibility, escape/avoidance. There are 4 categories of responding from 0 to 3 where 0=does not apply or not used and 3=used a great deal. These are the weights that should be used to get the raw scores. The raw scores for each item on each scale can be obtained by adding the scores for their respective subscales. Scores describe the coping effort for each of the two types of coping. Cronbach’s alpha for all the eight scales lies between 0.61 to 0.79 and validity lie between 0.17 to 0.47.
3. Ways of Religious Coping Scale was developed by Boudreaux, Catz, Ryan, Amaral-Melendez and Brantely (1995). Religious coping refers to the uses of religious belief or practices to cope with stressful life circumstances. It includes prayer, seeking comfort from one’s faith and obtaining support from Church members. Religious coping can be both external and internal. In other words, the external religious coping is related to have social support through some religious group and internal religious coping is related to private religious practices.

The following scale can be used to assess religious coping strategies. It has 40 items. There are five response categories from 0 to 4, where 0= never used religion and 4= always used. This scale is a self-report instrument for assessing the degree and kind of religious cognitions and behaviors people use to cope with stress. All the items are scored accordingly on the Likert scale as weightage given to the each item. There are 4 items which are reversely scored. Internal consistency Cronbach’s alpha for entire scale is 0.95.

4. Arthritis Impact Measurement Scale-2SF was developed by Guillemin, Coste, Pouchot, Ghézail, Bregeon, Sany (1997). It is a short version of AIMS-2 given by Meean, Mason, Anderson, Guccine, and Kazis (1992) scale. This is disease specific measure of health related quality of life outcomes. It detects health status changes over short and long periods of time. It has 26 items related to the QOL of arthritis patients which measures arthritis impact in five areas i.e. physical (mobility level, walking and bending, hand and arm function, self care, household tasks), symptom (arthritis pain), social interaction (social activities, support from family and friends), Role (work) and affect (level of tension and mood). There are 5 response categories from all days to no days. Each item is scored separately without weights. Higher scores indicate greater disability.

Internal consistency was calculated in each component using Cronbach’s alpha coefficient (15). Convergent validity of the Physical and Symptom components was assessed by Pearson’s correlation coefficients with clinical variables is 0.24 to 0.59. Intraclass correlation coefficient is >0.7. Internal consistency was high in all components of the AIMS2-SF except the Social Interaction component. It has psychometric properties similar to those of AIMS-2.
5. World Health Organization Quality of Life (WHOQOL) BREF developed by WHO (1996). Quality of Life has been defined by the World Health Organization as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept incorporating in a complex way the person's physical health, psychological state, social relationships, and their relationship to salient features of the environment.

This definition reflects the view that quality of life refers to a subjective evaluation, which is embedded in a cultural, social and environmental context. As such, quality of life cannot be simply equated with the terms health status, lifestyle, life satisfaction, mental state, or well-being. Rather, it is a multidimensional concept incorporating the individual's perception of these and other aspects of life.

The questions have been developed by WHO in order to provide a short form for quality of life assessment that looks at a domain level profiles. It has 26 items and contains 2 items from overall QOL and general health, and one item from each of the 24 facets included in WHOQOL for providing broad and comprehensive assessment. The questionnaire assesses QOL in 4 domains, namely, physical health (i.e. activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest and work capacity; psychological health (i.e. bodily image and appearance, negative feelings, positive feelings, self-esteem, spirituality / religion / personal beliefs, thinking, learning, memory and concentration); social relationship (i.e. personal relationships, social support, and sexual activity); and environmental (i.e. financial resources, freedom, physical safety and security, health and social care: accessibility and quality, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation / leisure activities, physical environment (pollution / noise / traffic / climate), transport.

It is self administered questionnaire. The questions produce a QOL profile. Each item is rated on 5 point scale. Here higher score denote higher QOL. It is possible to drive 4 domain scores which denote an individual perception of QOL in each specific domain. There are also 2 items which are examined separately: question 1 asks about an individual's overall perception of QOL and question 2 asks about individual's overall
perception of their health. The scale has been shown to have a good discriminant validity, sound content validity and good test-retest reliability. Despite the heterogeneity of facets included within domains, all domains display excellent internal consistency. Cronbach alpha values for each of the domain scores ranged from 0.16 (for domain 3) to 0.84 (for domain 1). It has many uses including use in medical practice, policy making, research and in assessing the effectiveness and relative merits of different treatments. It can also be used to assess variation in QOL across different cultures to compare subgroups within the same culture and to measure change across time in life circumstances.

**Procedure:**

After selecting the appropriate tools for the study, all the tools were translated to Hindi for better understanding of the subjects. These tools were then back translated by 12 persons knowing both the languages well. 4 of these were psychologists, 4 were doctors and 4 were teachers in the University. Then the permission of the PGIMS, Rohtak, Civil Hospital, Rohtak, and from many other places of Haryana was taken in order to collect the data on the diagnosed patients of arthritis. The other social resources were also used for collecting data by distributing the scales. Then the patients were approached one by one. After establishing the rapport with each subject one by one, they were given arthritis pain scale, arthritis impact scale, ways of coping questionnaire, ways of religious coping scale and WHOQOL-BREF.

For RAPS following instructions were given, "the following items are related to pain and arthritis. For each item, you have to choose one number from 0 (never) to 6 (always) to describe how you have felt in the last week”.

For AIMS2-SF following instructions were given to the subjects, "This is the scale for measuring how much pain has affected your day to day life. It has 5 response options (0-4) i.e. always, most of days, very few days and never. You have to tick the option according to your disease affect on your day to day activities i.e. whether the disease impact you less or more."
For the Ways of Religious Coping Scale following instructions were given to the Ss, "The following questions relate to how you handle stressful situations. A "stressful situation" is any event that is difficult or troubling for you, because you feel distressed about what is happening or because you have to use considerable effort to deal with the situation. The situation may involve your family, your job, your friends, or something else important to you. Read each statement and indicate how often you engage in the following behaviors when in a stressful situation. Indicate your answer by circling the number. Please respond to every item.

There are five response categories 0-4. Where 0=never used religion and 4=always used".

Similarly following instructions were given for Ways of Coping scale, "Please read each item below and indicate, by using the following rating scale, to what extent you used it in the situation you have just described. You have to answer according to 4 point scale (0-3). There is no right or wrong question. You have to answer according to your view."

For WHOQOL BREF following instructions were given to the Ss, "This assessment asks how you feel about your quality of life, health, or other areas of your life. Please answer all the questions. If you are unsure about which response to give to a question, please choose the one that appears most appropriate. This can often be your first response. This is a 5 point scale varying 1 to 5. Where “1” means “never” and “5” mean “always”. There is no right or wrong answer. You have to answer according to your expectations, anxieties and also your life satisfactions. You have to answer each question according to the events happened to you during the last two weeks."

After giving the instructions for each scale, the scales were got filled by the subjects one by one. They filled the response form according to the instructions. It takes 40-50 minutes in completing all the scales. After completion, all the scales were taken from the Ss. They were thanked for their co-operation. Scoring of each scale was done according to the manual. After this, on the basis of Quartiles RAPS scores were differentiated for different pain intensities. Subjects falling between Q1 (67) and Q3 (80) were taken as moderate pain patients, although the main purpose of the study was to consider only moderate pain patients, Ss having high and low pain were also analyzed later on. The T-scores were calculated for WORCS and WAYS-R in order to make the coping comparable. Now the mean and SD was calculated and T scores of each subject were
categorized by mean ± SD. After that subject having moderate pain intensity and high score on any one of the coping strategy and low on other two types of coping strategies were taken as final sample. In this way three coping groups i.e. RC, EFC and PFC were formed. The AIMS and QOL score of the finalized subjects of each three coping groups were analyzed by one-way ANOVA followed by DRT. Similarly the scores of high pain and low pain Ss were also taken and analyzed. The obtained results have been discussed in the next chapter.