

**ASSESSING THE IMPROVEMENT OF THE QUALITY OF LIFE IN
AYURVEDIC MEDICINE FOR THE WRIST FRACTURE**

Abstract

Ayurvedic medicine is a system of healing that originated in ancient India. The goal of Ayurveda is prevention as well as promotion of the body's own capacity for maintenance and balance. A bone fracture is a medical condition in which there is damage in continuity of the bone. Wrist fracture is one of the common fracture. The Ayurvedic term for fracture is *Bhagna*. In Ayurveda, bone fractures are classified into two types "Dislocation (*Sandhimukta*) and Fracture (*Kandabhagna*)". A wrist fracture is a medical term for a broken wrist. International Osteoporosis Foundation (IOF) developed a specific questionnaire for quality of life patients with wrist fracture. The aim of this survey was to assess the improvement of the quality of life (QOL) in Ayurvedic medicine for the wrist fracture. All wrist fracture patients who were came to orthopedic clinic at BMIRI were selected for this research study and interview administrated questionnaire was used to collect the data. Wrist fracture patients divided into three groups (A, B, C). QOL assessed first visit, after 6th week, after 3month, and after 6th month. In group A, they were get quick improvement seen within 3months. QOL score changes from 16, 39, and 55. In group B, QOL score of patients who were get treatment for 6th weeks QOL score changes from 18, 38.5. QOL score of patients who were get treatment for 6 month QOL score change from 17, 26, 35, and 43. In group C, QOL score of patients who were get treatment for 3month QOL score changes from 21, 31.5, and 42.5. QOL score of patients who were get treatment for 6 month QOL changes from 17, 24, 35 and 41. According to the study patients were quickly improved by Ayurvedic treatment. So Ayurvedic treatment of fracture management is very effective.

Key words: Quality Of Life, Wrist Fracture, *Bhagna*

31 1. Introduction

32 1.1 Background of study

33 Ayurvedic medicine is a system of healing that originated in ancient India. The goal of
34 Ayurveda is prevention as well as promotion of the body's own capacity for maintenance and
35 balance.⁸ A bone fracture is a medical condition in which there is damage in continuity of the
36 bone. A bone fracture can be the result of high force impact or stress or minimal trauma injury as
37 a result of certain medical conditions that weaken the bones such as osteoporosis, bone cancer or
38 osteogenesis imperfecta.

39 Fragility fractures are common, 1 in 2 women over 50 years of age will suffer one, as will
40 1 in 5 men. Globally during year 2000 there were estimated 9 million new fragility fractures, of
41 which 1.6 million were at the hip, 1.7 million at the wrist, 0.7 million at the humerus and
42 1.4 million symptomatic vertebral fractures.

43 Wrist fracture is one of the common fractures. A wrist fracture is a medical term for a
44 broken wrist. The wrist is made up of eight small bones which connect with the two long forearm
45 bones called the radius and ulna. Although a broken wrist can happen in any of these 10 bones,
46 by far the most common bone to break is the radius. This is called a distal radius fracture by hand
47 surgeons.⁶ One of the most common distal radius fractures is a Colles fracture. It causes a
48 considerable loss of quality of life both acute loss, immediately after the fracture & chronic loss
49 because of recurrent fractures & disability due to incomplete recovery.

50 Quality of life (QOL) is the general well-being of individuals and societies, outlining
51 negative and positive features of life. It observes life satisfaction, including everything from
52 physical health, family, education, employment, wealth, religious beliefs, finance and the
53 environment. Several instruments have been developed for the assessment of quality of life after
54 wrist fracture. International Osteoporosis Foundation (IOF) developed a specific questionnaire
55 for quality of life patients with wrist fracture.

56 The Ayurvedic term for fracture is Bhagna. In Ayurveda, bone fractures are classified
57 into two types "dislocation (*Sandhimukta*) and fracture (*Kandabhagna*)". Ayurveda offers
58 effective treatment for rejoining bones and restoring them to their original form and strength.
59 Generally, bone being a living tissue, constantly builds and hence rejoins and nourishes. The

60 three fundamental principles of fracture treatment are *Bhagna Sthapana* (Reduction), *Bhagna*
61 *Sthirikara* (Immobilization), *Punah cheshta prasara* (Rehabilitation). In Ayurveda one of the
62 important immobilization methods is bandaging for fracture. It classify into 15 types. Commonly
63 spiral bandaging (*anuvellita*) is use to bandage around upper and lower limbs.

64 **1.2 Justification**

65 Many numbers of patients are visiting for the Ayurveda hospitals for the fracture
66 treatment. Evaluate the fracture healing effectiveness of Ayurvedic treatment is essentially
67 important to identify the treatment is successful or not, So we did the study to evaluate the wrist
68 fracture healing effectiveness who came just for the Ayurvedic treatment, who came getting after
69 the western treatment and who came getting traditional treatment.

70 **2. Primary & Secondary Objectives**

71 **Aim**

72 To assess the improvement of the quality of life in Ayurvedic medicine for the wrist
73 fracture.

74 **Objectives**

- 75 ➤ To assess the quality of life to wrist fracture patients who were take ayurvedic treatment
76 straightly(A)
- 77 ➤ To assess the quality of life to wrist fracture patients who were take ayurvedic treatment
78 after getting western treatment(B)
- 79 ➤ To assess the quality of life to wrist fracture patients who were take ayurvedic treatment
80 after getting alternative treatment(C)

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85 **3. Research Methodology**

86 **3.1 Study design & area**

87 This is a Retrospective cohort Study. This study was conducted among wrist
88 fracture patients in *Kadum bidum* clinic who were attend to hospital for treatment of
89 wrist fracture at Bandaranayaks Memorial Ayurvedic Research Institute.

90 **3.2 Research Instruments:**

91 Structured Interview administrated Questionnaire prepared based on Specific
92 objectives. Questionnaire for the research was prepared and checked by the
93 Supervisor.

94 **3.3 Main study**

95 Research proposal was prepared and approval was taken from the Supervisor.

96 **Data collection**

97 Data was collected by interview administrated questionnaire from the *Kadum bidum*
98 clinic patients who are affected by wrist fracture in order to do the main research.

99 **Data Analysis**

100 The data was tabled and analyzed using simple statistics as the next step of the
101 research. The matters collected from the revised literature also analyzed in addition to
102 the result of the research. The research report was prepared after the research results
103 were achieved.

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110 **4. 4. Literature review**

111 **4.1 Fracture**

112 A fracture may be a complete break in the continuity of a bone or it may be an
113 incomplete break or crack.

114 Classification 1 - According to their etiology into 3 groups.

- 115 1. Fractures caused solely by sudden injury
- 116 2. Fatigue or stress fractures
- 117 3. Pathological fractures

118 Classification 2 - According to the pattern of fracture

119 Fractures are often designed by descriptive terms denoting the shape or pattern of the fracture
120 surface as seen on radiographs. It may indicate the nature of causative violence & may thus give
121 a clue to the easiest method of reduction

- 122 1. Transverse fracture
- 123 2. Oblique fracture
- 124 3. Spiral fracture
- 125 4. Comminuted fracture(with more than fragments)
- 126 5. Compression / Crush fractures
- 127 6. Green stick fracture (incomplete breaks occurring only in the resilient bone of children)
- 128 7. Impacted fractures

129 Classification 3 - According to the soft tissue involvement

- 130 1. Close fracture: are those in which they overlying skin is intact.
- 131 2. Open fracture / Compound fracture: involve wounds that communicate with the fracture,
132 or where fracture hematoma is exposed, and may thus expose bone to contamination.
133 Open injuries carry a higher risk of infection.
- 134 3. Clean fracture
- 135 4. Contaminated fractures

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137 **Symptoms of bone fracture**

138 The signs and symptoms of a fracture vary according to which bone is affected, the patient's age
139 and general health, as well as the severity of the injury.

- 140 • Pain
- 141 • Swelling
- 142 • Bruising
- 143 • Discolored skin around the affected area
- 144 • Angulation - the affected area may be bent at an unusual angle
- 145 • The patient cannot move the affected area
- 146 • The affected bone or joint may have a grating sensation

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148 a. **Wrist fracture**

149 A wrist fracture is a medical term for a broken wrist. The wrist is made up of eight small bones
150 which connect with the two long forearm bones called the radius and ulna. Although a broken
151 wrist can happen in any of these 10 bones, by far the most common bone to break is the radius.
152 This is called a distal radius fracture by hand surgeons

153 **Distal Radius Fractures (Broken Wrist)**

154 The radius is the larger of the two bones of the forearm. The end toward the wrist is called the
155 distal end. A fracture of the distal radius occurs when the area of the radius near the wrist breaks.

156 Distal radius fractures are very common. In fact, the radius is the most commonly broken bone in
157 the arm.

158 **Description**

159 A distal radius fracture almost always occurs about 1 inch from the end of the bone. The break
160 can occur in many different ways, however.

161 One of the most common distal radius fractures is a Colles fracture, in which the broken
162 fragment of the radius tilts upward. This fracture was first described in 1814 by an Irish surgeon
163 and anatomist, Abraham Colles, hence the name Colles fracture.

164 Other ways the distal radius can break include:

165 **Intra-articular fracture:** A fracture that extends into the wrist joint. (Articular means joint.)

166 **Extra-articular fracture:** A fracture that does not extend into the joint is called an extra-
167 articular fracture.

168 **Open fracture:** When a fractured bone breaks the skin, it is called an open fracture. These types
169 of fractures require immediate medical attention because of the risk for infection.

170 **Comminuted fracture:** When a bone is broken into more than two pieces, it is called a
171 comminuted fracture.

172 It is important to classify the type of fracture, because some fractures are more difficult to treat
173 than others. Intra-articular fractures, open fractures, comminuted fractures, and displaced
174 fractures are more difficult to treat, for example.

175 Sometimes, the other bone of the forearm (the ulna) is also broken. This is called a distal ulna
176 fracture.

177 **Cause**

178 The most common cause of a distal radius fracture is a fall onto an outstretched arm.

179 Osteoporosis can make a relatively minor fall result in a broken wrist. Many distal radius
180 fractures in people older than 60 years of age are caused by a fall from a standing position. A
181 broken wrist can happen even in healthy bones, if the force of the trauma is severe enough.

182 **Symptoms**

183 A broken wrist usually causes immediate pain, tenderness, bruising, and swelling. In many cases,
184 the wrist hangs in an odd or bent way (deformity).

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189 **Complications of a bone fracture**

- 190 1. Heals in the wrong position - this is known as a malunion either the fracture heals in the
191 wrong position or it shifts (the fracture itself shifts).
- 192 2. Disruption of bone growth - if a childhood bone fracture affects both ends of bones, there
193 is a risk that the normal development of that bone may be affected, raising the risk of a
194 subsequent deformity.
- 195 3. Persistent bone or bone marrow infection - if there is a break in the skin, as may happen
196 with a compound fracture, bacteria can get in and infect the bone or bone marrow, which
197 can become a persistent infection. Patients may need to be hospitalized and treated with
198 antibiotics. Sometimes surgical drainage and curettage is required.
- 199 4. Bone death (a vascular necrosis) - if the bone loses its essential supply of blood it may
200 die.

201 **Prevention of bone fractures**

202 Nutrition and sunlight - the human body needs adequate supplies of calcium for healthy bones.
203 Milk, cheese, yoghurt and dark green leafy vegetables are good sources of calcium.

204 Our body needs vitamin D to absorb calcium - exposure to sunlight, as well as eating eggs and
205 oily fish are good ways of getting vitamin D.

206 Physical activity - the more weight-bearing exercises you do, the stronger and denser your bones
207 will be. Examples include skipping, walking, running, and dancing - any exercise where the body
208 pulls on the skeleton.

209 Older age not only results in weaker bones, but often in less physical activity, which further
210 increases the risk of even weaker bones. It is important for people of all ages to stay physically
211 active.

212 The (female) menopause - estrogen, which regulates a woman's calcium, starts to drop and
213 continues to do so until after the menopause, levels never come back up to pre-menopausal
214 levels. In other words, calcium regulation is much more difficult after the menopause.
215 Consequently, women need to be especially careful about the density and strength of their bones
216 during and after the menopause.

217 The following steps may help reduce post-menopausal osteoporosis risk:

- 218 • Do several short weight-bearing exercise sessions each week
- 219 • Consume only moderate quantities of alcohol, or don't drink it
- 220 • Make sure you get adequate exposure to daylight Make sure your diet has plenty of
- 221 calcium-rich foods. For those who find this difficult, talk to your doctor about taking
- 222 calcium supplements.

223 **4.3 Kandabhagna**

224 In Ayurveda Bone fractures are classified into two types dislocation (*Sandhimukta*) and

225 fracture (*Kandabhagna*). The types of fractures are:

- 226 1. *Karkataka*: Two ends of the shaft bent, swelling over the fracture in the middle
- 227 2. *Asvakarana*: Fractured ends in angular deformity.
- 228 3. *Curnita*: Fracture comminuted with crepitus.
- 229 4. *Piccita*: Fracture site crushed with several swelling.
- 230 5. *Asthichalita*: one fractured end displaced downwards and the other end sideways.
- 231 6. *Kandabhagna*: Fractured ends free & move on vibrating.
- 232 7. *Majjanugata*: One fractured end impacted into the marrow cavity of the other with
- 233 exudation of marrow.
- 234 8. *Atipatita*: Fractured end droops(eg; jaw)
- 235 9. *Vakra*: Bone is bent, not completely fractured (greenstick)
- 236 10. *Chinna*: One surface fractured, the other surface of the bone intact.
- 237 11. *Patitam*: Large number of small penetrating wounds on the bone with severe pain.
- 238 12. *Sphutita*: Bone cracked, swollen and painful; feels as if it contains the bristles of an insect.

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244 4.4 Treatment

245 The three fundamental principles of fracture treatment are

- 246 i *Bhagna Sthapana* (Reduction)
- 247 ii *Bhagna Sthirikara* (Immobilisation)
- 248 iii *Punah cheshta prasara* (Rehabilitation)

249 As soon as the fracture is diagnosed steps should be taken to reduce the fracture. Delayed
250 reduction may result in delayed union or non-union and the displaced fragment may cause nerve
251 damage or disturbance of circulation. For reduction of a fracture, certain manipulations are
252 necessary .Manipulation is usually done as a therapeutic measure. But when it is performed with
253 skill and understanding, it acquires a diagnostic function in assessing the stability of a fracture
254 which in turn may govern the choice of treatment. The aim of reduction is to reduce the space
255 between fragments and to place in original position

256 The correct repositioning of the displaced bone are achieved raising the depressed fragment,
257 pressing down the elevated, pulling and straightening when one end is overlapping the other.
258 The basic procedures in treating a fracture are traction (*ancana*) Compression (*Peedana*)
259 immobilization (*Samkshepa*) and bandage (*bandha*) Once a joint or fracture is reset and the
260 deformity corrected , it regains its normal state by healing which is facilitated by rest and cold
261 irrigation, medicinal plaster and dressings with linen soaked in medicated oils and splints.
262 During olden days splints were used for immobilization.

263 The barks of the following trees were found to be useful. .

264 *Madhuca longifolia*

265 *Ficus glomerulata*

266 *Ficus religiosa*

267 *Butea frondosa*

268 *Terminalia arjuna*

269 *Bambusa bambos*

270 *Terminalia tomentosa*

271 *Ficus bengalensis*

272 **Bandages**

273 Bandages are indispensable in the treatment of fractures. Bandages are usually done to hold the
274 splints and dressings in position its main uses are

- 275 • to stop bleeding by pressure
- 276 • to give rest and support
- 277 • to retain dressings and splints in position
- 278 • to prevent edema
- 279 • to correct deformity

280 Types of bandages are

- 281 • Sheath (*kosa*) Around thumb and fingers
- 282 • Long roll (*dama*) Sling around straight parts of small width
- 283 • Cross – like (*svastika*) Spica around joints
- 284 • Spiral (*anuvellita*) Around upper and lower limbs
- 285 • Winding (*mutoli*) Circular around neck penis
- 286 • Ring (*mandala*) Circular around stumps
- 287 • Betel box type (*sthagika*) Amputation stumps tip of penis or fingers
- 288 • Two tailed (*yamaka*) Around limbs to treat ulcers
- 289 • Four-tailed (*khatva*) For jaw, cheeks, temples
- 290 • Ribbon-like (*cina*) Outer angles of eyes: temples
- 291 • Loosely knotted Over back abdomen & chest
- 292 • Noose like (*vibantha*)
- 293 • Canopy like Protective cover over head wound
- 294 • Cow horn (*gosphana*) Over chin, nose, lips, ano-rectal region
- 295 • Five tailed (*pancangi*) Head and neck above the level of clavicles

296 Acharyas have mentioned the rules of bandaging very scientifically. It should not be neither too
297 tight nor too loose. Tightness can lead to swelling pain, blebs and too loose a bandage can never

298 give the desired stability of the fractured fragments. Like wise bandaging should be done in the
299 interval of three, (hot Season) five (Normal season) or seven days (Cold season) depending upon
300 the climatic conditions.

301 **Immobilization techniques in Ayurveda**

302 There are enough evidence to prove that Susrutha and his followers had profound knowledge on
303 immobilisation techniques. One of the application mentioned in Bhaishajya ratnavally is pankha
304 pradaha. It means application of mud around the fracture site. Most probably it could be
305 analogous with plaster of paris which we practise today. Another type of immobilisation
306 techniques which is very prevalent in Kerala and adjoining states are a combination of white of
307 egg, Black gram powder and cloth

308 **Rehabilitation**

309 The first objective of rehabilitation is to eliminate the physical disability to the greatest extend
310 possible second to alleviate or to reduce the disability to maximum possible level and third to
311 train the person with residual physical disability to work and live within the limits of disability
312 but to the hilt of his capabilities Significance of the principles of rehabilitation was known to
313 ayurvedic Acharyas. Susrutha has instructed the patient of fracture carpal bone to bear weight in
314 increasing order as the fracture healing progress. He instruct the patient to bear the bolus of mud
315 and then rock salt and later Pashana.

316 **4.5 Prognosis**

317 The treatment of curnita, chinna, atipatita and majjanugata type of fractures are difficult to heal.
318 Dislocations of joints in children, elderly and debilitated individuals are also difficult to try

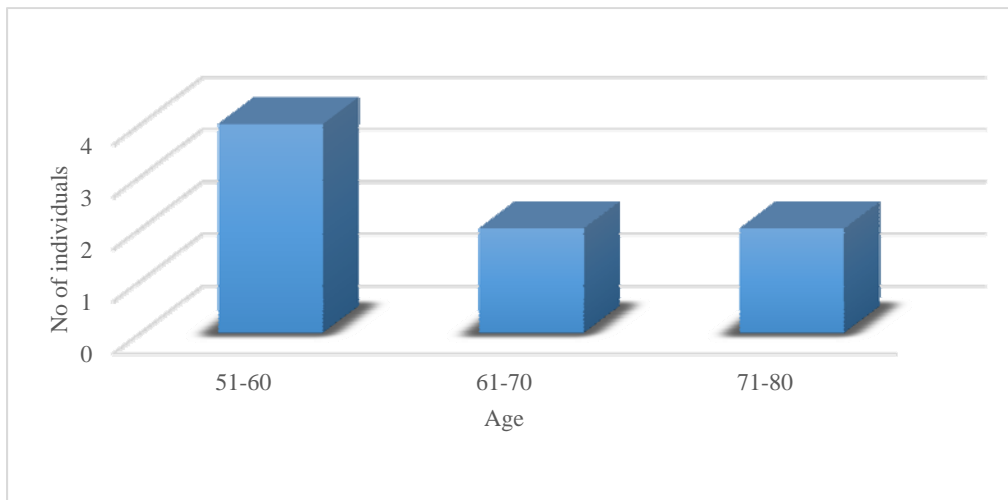
319 The treatment of fractures and joint injuries is difficult in patients who eat too little, who lack
320 self – control to comply with instruction and those with vitaja constitution. The treatment is easy
321 and successful in youth in the absence of dosa perturbation and in cold weather condition. The
322 stability of a joint which takes a month in youth may require twice as long in middle age and
323 thrice in old age.

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326 **5. RESULT AND DISCUSSION**

327 **5.1 Details of wrist fracture patients' age**

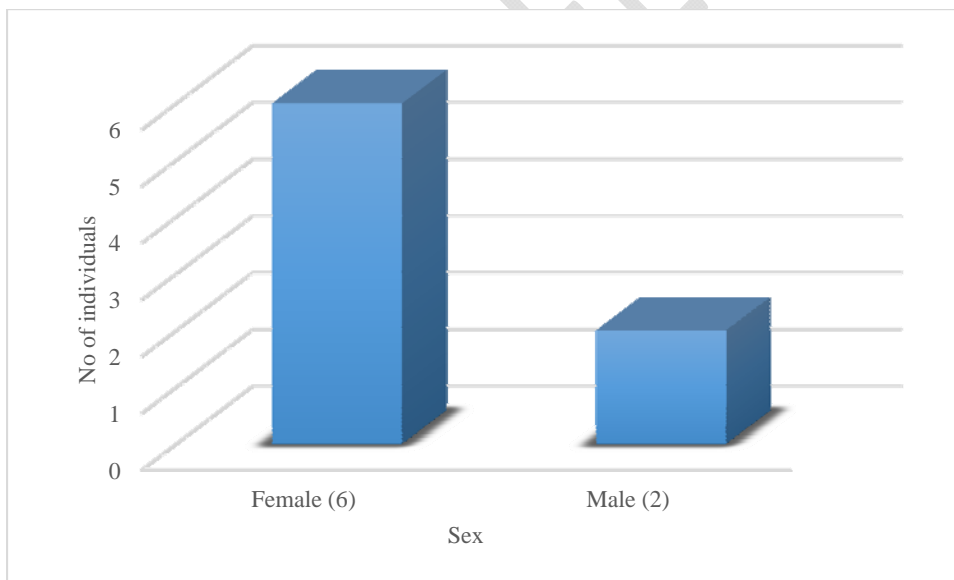


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329 Out of 8 wrist fracture patients, 4 patients are in age of 51yrs to 60 yrs. 2 patients are in age of
330 61yrs to 70yrs and 2patients are in 71yrs to 80 yrs.

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332 **5.2Details of wrist fracture patients' sex**



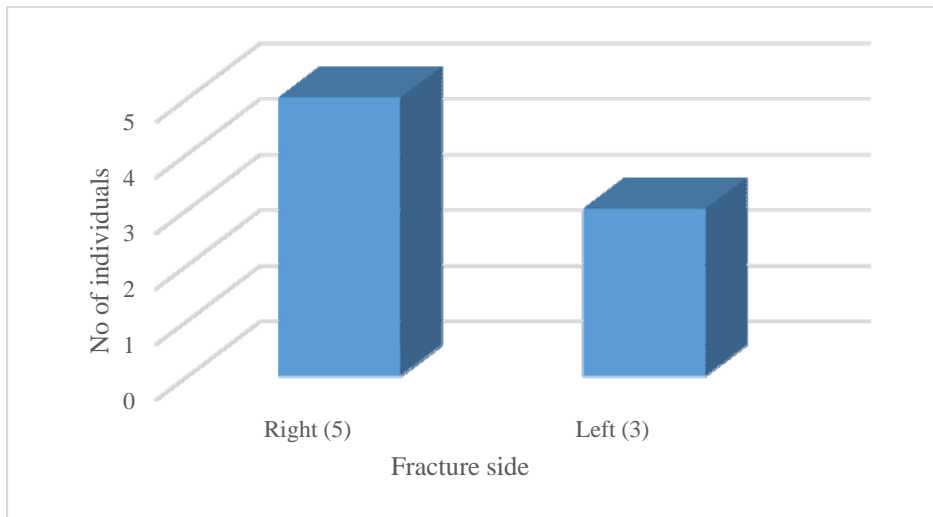
333

334 Out of 8 wrist fracture patients, 6patients are female and 2 patients are male.

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337 **5.3 Details about fracture side**



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339 Out of 8 wrist fracture patients, 5 patients have right hand wrist fracture and 3 patients have left
340 hand wrist fracture.

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354 **Data classified with Category (Maximum score), 1st day QOL Score, after 6th week QOL**
355 **Score, after 3month QOL Score, after 6th month QOL Score and P-Value.**

356 **5.4 Table 01**

357 **Group A** (Assess the quality of life to wrist fracture patients who are took ayurvedic treatment
358 straightly)

Category (Maximum score)	1 st day	6 th week	3month	Probability value
1. TotalIOFQOL score(60)	16	39	55	P<0.05
2. Pain	1	3	5	P<0.05
3. Numbness	5	5	5	P<0.05
4. Stiffness	1	3	4	P<0.05
5. Deformity	1	3	4	P<0.05
6. Wash or dry hair	1	3	5	P<0.05
7. Turn a door	1	3	4	P<0.05
8. Problems with doing works	1	3	4	P<0.05
9. Writing	1	3	5	P<0.05
10. Transport	1	3	5	P<0.05
11. Activities	1	3	4	P<0.05
12. Need help	1	4	5	P<0.05
13. QOL	1	3	5	P<0.05

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360 Total maximum QOL score is 110, 1st Day QOL score is 16, after 6th week QOL score is 39 and
361 after 3month QOL score is 55. Therefore improvement is significant.

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365 **5.5 Table 02**

366 **Group B** (Assess the quality of life to wrist fracture patients who are took ayurvedic treatment
 367 after getting western treatment)

368 a. Assess the QOL in two patients who were get treatment for 6th weeks

	1 st day	6 th week	3month	6month	Probability value
1. Total IOFQOL score(60)	18	38.5			P<0.05
2. Pain	1.5	3.5			P<0.05
3. Numbness	3	4			P<0.05
4. Stiffness	1	3			P<0.05
5. Deformity	2	3.5			P<0.05
6. Wash	1	3			P<0.05
7. Turn a door	1.5	3.5			P<0.05
8. Doing works	1.5	3			P<0.05
9. Writing	2	3			P<0.05
10. Transport	1.5	3			P<0.05
11. Activities	1	3			P<0.05
12. Need help	1	3			P<0.05
13. QOL	1	3			P<0.05

369
 370 Total maximum QOL score is 60, In 1st Day QOL score is 18 and after 6th week QOL score is
 371 38.5. Therefore improvement is significant.

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b. Assess the QOL in one patient who were get treatment for 6month

	1 st day	6 th week	3month	6month	Probability value
1. Total IOFQOL score(60)	17	26	35	43	P<0.05
2. Pain	1	2	3	4	P<0.05
3. Numbness	5	5	5	5	P<0.05
4. Stiffness	1	1	2	3	P<0.05
5. Deformity	2	2	3	3	P<0.05
6. Wash	1	2	2	3	P<0.05
7. Turn a door	1	2	2	3	P<0.05
8. Doing works	1	2	3	4	P<0.05
9. Writing	1	2	3	3	P<0.05
10. Transport	1	2	3	3	P<0.05
11. Activities	1	2	3	4	P<0.05
12. Need help	1	2	3	4	P<0.05
13. QOL	1	2	3	4	P<0.05

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378 Total maximum QOL score is 60, In 1st Day QOL score is 17, after 6th week QOL score is 26,
379 after 3month QOL score is 35 and after 6 months QOL score is 43. Therefore improvement is
380 significant.

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387 **5.6 Table 03**

388 **Group C** (Assess the quality of life to wrist fracture patients who are took ayurvedic treatment
 389 after getting alternative treatment)

390 a. Assess the QOL in two patient who were get treatment for 6month

	1 st day	6 th week	3month	6month	Probability value
1. Total IOFQOL score(60)	17	24	35	41	P<0.05
2. Pain	1.5	2.5	3.5	4	P<0.05
3. Numbness	5	5	5	5	P<0.05
4. Stiffness	1.5	2.5	3.5	4	P<0.05
5. Deformity	1	2	3	3.5	P<0.05
6. Wash	1	1.5	2.5	3.5	P<0.05
7. Turn a door	1	1.5	2.5	3	P<0.05
8. Doing works	1	1.5	2.5	3	P<0.05
9. Writing	1	1.5	2.5	3	P<0.05
10. Transport	1	1.5	2.5	3	P<0.05
11. Activities	1	1.5	2.5	3	P<0.05
12. Need help	1	1.5	2.5	3	P<0.05
13. QOL	1	1.5	2.5	3	P<0.05

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 392 Total maximum QOL score is 60, 1st Day QOL score is 17, after 6th week QOL score is 24, after
 393 3month QOL score is 35 and after 6th month QOL score is 41. Therefore improvement is
 394 significant.

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b. Assess the QOL in two patient who were get treatment for 3month

	1 st day	6 th week	3month	6month	Probability value
1. Total IOFQOL score(60)	21	31.5	42.5		P<0.05
2. Pain	2	2.5	3.5		P<0.05
3. Numbness	5	5	4.5		P<0.05
4. Stiffness	1.5	2	3		P<0.05
5. Deformity	2.5	3	4		P<0.05
6. Wash	1.5	3	4		P<0.05
7. Turn a door	1.5	2.5	3.5		P<0.05
8. Doing works	1.5	2.5	3.5		P<0.05
9. Writing	1.5	2.5	3.5		P<0.05
10. Transport	1	2	3		P<0.05
11. Activities	1	2	3		P<0.05
12. Need help	1	2	3.5		P<0.05
13. QOL	1	2.5	3.5		P<0.05

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401 Total maximum QOL score is 60, 1st Day QOL score is 21, after 6th week QOL score is 31.5, and
 402 after 3month QOL score is 42.5. Therefore improvement is significant.

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412 **6. Conclusion**

413 According to result,

414 1st day, 6th week, 3 month and 6 month QOL score change from

415 ➤ Group A (16 → 39 → 55)

416 ➤ Group B

417 a. Assess the QOL in two patient who were get treatment for 6th weeks
418 (18→38.5)

419 b. Assess the QOL in one patient who were get treatment for 6months
420 (17→ 26→ 35→43)

421 ➤ Group C

422 a. Assess the QOL in two patients who were get treatment for 3months
423 (21→31.5→42.5)

424 b. Assess the QOL in two patients who were get treatment for 6months
425 (17→24→35→ 41)

426 ❖ In group A, Patients who were directly visited to Ayurvedic treatment in BMARI at
427 Orthopedic clinic they were get quick improvement seen within 3months.

428
429 ❖ In group B, Patients who were visited to Ayurveda treatment in BMARI at Orthopedic
430 clinic after getting the western treatment, QOL in two patients who were get treatment for
431 6th weeks QOL change from 18→ 38.5. QOL in one patient who were get treatment for 6
432 month QOL change from 17→ 26 → 35→43.

433 In group C, Patients who were visited to Ayurveda treatment in BMARI at Orthopedic
434 clinic after getting the alternative treatment, QOL in two patients who were get treatment
435 for 3month QOL change from 21→31.5→42.5. QOL in one patient who were get
436 treatment for 6 month QOL change from 17→24→35→ 41.

437 According to above results patients got quickly improve by Ayurveda treatment than
438 group B and C.

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Ethical Approval:

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This research conducted in Bandaranayake Memorial Ayurvedic Research Institute. That's why I didn't get ethical clearance.

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7. Suggestions

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According to results and patients satisfactions Ayurveda treatment of fracture management is very effective. We should give awareness about, effectiveness of Ayurveda fracture healing and management to public.

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Suggested to analyzed number of individuals will increase we can get better results.

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