

1  
00:00:00,000 --> 00:00:03,928  
frequently the animals groom their

2  
00:00:01,649 --> 00:00:06,810  
wounds and for what period of time and

3  
00:00:03,928 --> 00:00:10,589  
then total grooming overall as well the

4  
00:00:06,809 --> 00:00:12,689  
frequency of that and the duration this

5  
00:00:10,589 --> 00:00:15,990  
is Lisa if you don't know what a bush

6  
00:00:12,689 --> 00:00:17,850  
baby looks like Lisa was in our study

7  
00:00:15,990 --> 00:00:20,820  
she ended up being in the prayer group

8  
00:00:17,850 --> 00:00:22,890  
and I have a picture here of a wound you

9  
00:00:20,820 --> 00:00:25,500  
can see on her left paw it was a fairly

10  
00:00:22,890 --> 00:00:28,018  
minor wound some of them it can really

11  
00:00:25,500 --> 00:00:30,868  
get quite large but you can see the fur

12  
00:00:28,018 --> 00:00:35,369  
is lost and the skin is abraded and it's

13  
00:00:30,868 --> 00:00:38,280  
an open sore measures were assessed at

14  
00:00:35,369 --> 00:00:40,349  
baseline and end of study blood samples

15  
00:00:38,280 --> 00:00:42,750  
were used for the physiological measures

16  
00:00:40,350 --> 00:00:45,558  
all blood samples were taken in the

17  
00:00:42,750 --> 00:00:48,689  
morning between seven and nine thirty AM

18  
00:00:45,558 --> 00:00:50,968  
cortisol measures we had to get that the

19  
00:00:48,689 --> 00:00:52,679  
court we had to have gotten the cortisol

20  
00:00:50,969 --> 00:00:55,140  
within three minutes of the animal

21  
00:00:52,679 --> 00:00:57,299  
capture to control for artificial

22  
00:00:55,140 --> 00:00:59,189  
inflation of cortisol secondary to the

23  
00:00:57,299 --> 00:01:02,509  
stress of being captured in their cage

24  
00:00:59,189 --> 00:01:05,069  
and bring brought into the lab I

25  
00:01:02,509 --> 00:01:06,868  
stratified the wounds by wound severity

26  
00:01:05,069 --> 00:01:09,329  
so we'll be looking at the more minor

27  
00:01:06,868 --> 00:01:12,659  
wounds mild to moderate and wounds that

28  
00:01:09,329 --> 00:01:16,048  
were more severe of moderate to severe

29

00:01:12,659 --> 00:01:18,090  
severity procedure animal the trial was

30  
00:01:16,049 --> 00:01:20,310  
double-blind it was someone uninvolved

31  
00:01:18,090 --> 00:01:23,219  
with a study that randomized the animals

32  
00:01:20,310 --> 00:01:25,500  
dealt with the intercessors all animals

33  
00:01:23,219 --> 00:01:27,959  
retreated for self-injurious behavior so

34  
00:01:25,500 --> 00:01:30,390  
they all received oral l-tryptophan to

35  
00:01:27,959 --> 00:01:32,099  
try to help with their condition there

36  
00:01:30,390 --> 00:01:35,040  
were two groups the animals who were

37  
00:01:32,099 --> 00:01:38,309  
receiving prayer and tryptophan and our

38  
00:01:35,040 --> 00:01:40,759  
usual care or tryptophan only group they

39  
00:01:38,310 --> 00:01:43,710  
received the tryptophan daily crushed in

40  
00:01:40,759 --> 00:01:46,859  
yogurt and fed before their meal time

41  
00:01:43,709 --> 00:01:49,048  
the IP was coincident with the first day

42  
00:01:46,859 --> 00:01:51,989  
of tryptophan administration and the

43  
00:01:49,049 --> 00:01:53,759

prayer continued for four weeks the

44

00:01:51,989 --> 00:01:56,429

intercessors were self-identified as

45

00:01:53,759 --> 00:01:59,040

Christian they all engaged in a regular

46

00:01:56,430 --> 00:02:01,020

prayer practice they all had prior

47

00:01:59,040 --> 00:02:03,210

experience with praying for healing from

48

00:02:01,019 --> 00:02:05,819

a distance it was important to me to try

49

00:02:03,209 --> 00:02:08,758

to capture as many intercessors who had

50

00:02:05,819 --> 00:02:09,359

prior clinical trial prayer experience

51

00:02:08,758 --> 00:02:11,750

and

52

00:02:09,360 --> 00:02:14,280

most of the intercessors in fact did all

53

00:02:11,750 --> 00:02:16,229

held the belief that God wants all

54

00:02:14,280 --> 00:02:18,539

creatures healthy and whole it was I

55

00:02:16,229 --> 00:02:21,209

learned a great deal from this study in

56

00:02:18,539 --> 00:02:22,650

many levels and one was the number of

57

00:02:21,210 --> 00:02:25,020

Christian intercessors who would not

58  
00:02:22,650 --> 00:02:26,849  
pray for animals believing that God

59  
00:02:25,020 --> 00:02:31,290  
would only want people to be healthy and

60  
00:02:26,849 --> 00:02:34,379  
whole so I I found them there are those

61  
00:02:31,289 --> 00:02:36,689  
of us who hold that belief unheard has

62  
00:02:34,379 --> 00:02:40,560  
provided daily during the four week time

63  
00:02:36,689 --> 00:02:42,479  
frame the intercessors only received the

64  
00:02:40,560 --> 00:02:44,280  
animals names so they would have

65  
00:02:42,479 --> 00:02:47,729  
received a list that was Lisa Shawn

66  
00:02:44,280 --> 00:02:49,169  
Daryl Felix and so on that's all they

67  
00:02:47,729 --> 00:02:50,759  
received there were intercessors who

68  
00:02:49,169 --> 00:02:53,219  
didn't even know what a bush baby looked

69  
00:02:50,759 --> 00:02:55,349  
like they were asked to pray daily

70  
00:02:53,219 --> 00:02:57,300  
within the specific study dates I

71  
00:02:55,349 --> 00:03:00,150  
provided them with no feedback in terms

72  
00:02:57,300 --> 00:03:02,310  
of the animals progress then we're told

73  
00:03:00,150 --> 00:03:05,330  
what the bush babies look like so that

74  
00:03:02,310 --> 00:03:08,489  
they could have an image in their mind

75  
00:03:05,330 --> 00:03:11,400  
and desired outcomes I opted for

76  
00:03:08,489 --> 00:03:12,689  
directed prayer but did not control to

77  
00:03:11,400 --> 00:03:14,280  
check to see whether or not the

78  
00:03:12,689 --> 00:03:16,169  
intercessors actually followed the

79  
00:03:14,280 --> 00:03:18,209  
specific direction so they were asked to

80  
00:03:16,169 --> 00:03:20,280  
pray for effectiveness of the medication

81  
00:03:18,209 --> 00:03:23,870  
that the behaviors become more calm and

82  
00:03:20,280 --> 00:03:27,239  
non-stressed and that the wounds healed

83  
00:03:23,870 --> 00:03:29,849  
took a look by an cova at wound immune

84  
00:03:27,239 --> 00:03:32,129  
and cortisol variables controlling for

85  
00:03:29,849 --> 00:03:34,349  
age because of the changes in the immune

86

00:03:32,129 --> 00:03:37,199  
system is one ages it becomes less

87  
00:03:34,349 --> 00:03:39,359  
effective and man coba to take a look at

88  
00:03:37,199 --> 00:03:42,449  
the red blood cell variables and

89  
00:03:39,360 --> 00:03:44,970  
behavioral variables by t test here's a

90  
00:03:42,449 --> 00:03:48,449  
snapshot of the IP or the intercessory

91  
00:03:44,969 --> 00:03:53,159  
prayer in the non prayer group by gender

92  
00:03:48,449 --> 00:03:56,579  
age was comparable as well and let's

93  
00:03:53,159 --> 00:03:58,259  
move into some of the goodies here at

94  
00:03:56,580 --> 00:04:01,049  
baseline here's what the wounds look

95  
00:03:58,259 --> 00:04:02,759  
like I have this divided up in three

96  
00:04:01,049 --> 00:04:04,349  
ways so you'll see this is for both

97  
00:04:02,759 --> 00:04:07,889  
groups intercessory prayer non

98  
00:04:04,349 --> 00:04:10,379  
intercessory prayer I p1 and ni p 1 are

99  
00:04:07,889 --> 00:04:13,429  
the mild to moderate wounds and when you

100  
00:04:10,379 --> 00:04:15,699

see I p2 and ni p to those are they more

101

00:04:13,430 --> 00:04:18,519

significant wounds that the animals

102

00:04:15,699 --> 00:04:21,159

had there was no significant difference

103

00:04:18,519 --> 00:04:22,899

at baseline we can see that in fact the

104

00:04:21,160 --> 00:04:25,270

wounds are relatively comparable across

105

00:04:22,899 --> 00:04:27,489

both groups other there was a fairly

106

00:04:25,269 --> 00:04:30,279

significant standard deviation that was

107

00:04:27,490 --> 00:04:32,168

accounted for by the animals that were

108

00:04:30,279 --> 00:04:33,789

down here the wounds were quite

109

00:04:32,168 --> 00:04:37,918

different in the mild to moderate group

110

00:04:33,790 --> 00:04:40,569

much smaller much less significant and

111

00:04:37,918 --> 00:04:43,000

here's a picture of the wound area at

112

00:04:40,569 --> 00:04:45,849

baseline so that we see the prayer

113

00:04:43,000 --> 00:04:47,470

groups are on the left no prayer going

114

00:04:45,850 --> 00:04:49,510

to be sitting on the right on the graphs

115  
00:04:47,470 --> 00:04:51,580  
that I have and there's about three

116  
00:04:49,509 --> 00:04:54,699  
quarters of a centimeter difference in

117  
00:04:51,579 --> 00:04:58,240  
the mild to moderate animals here we've

118  
00:04:54,699 --> 00:05:00,699  
got maybe a centimeter and a half that's

119  
00:04:58,240 --> 00:05:06,030  
different between those two groups at

120  
00:05:00,699 --> 00:05:09,129  
baseline the only significant variable

121  
00:05:06,029 --> 00:05:11,049  
no differences in behavior wound area

122  
00:05:09,129 --> 00:05:13,000  
and so on the only significant

123  
00:05:11,050 --> 00:05:15,610  
physiological variable had to do with

124  
00:05:13,000 --> 00:05:18,009  
monocytes and they were significantly

125  
00:05:15,610 --> 00:05:23,229  
lower in the group with the severe

126  
00:05:18,009 --> 00:05:24,788  
wounds and to study so what happened

127  
00:05:23,228 --> 00:05:27,159  
after four weeks of praying to the

128  
00:05:24,788 --> 00:05:30,219  
wounds I've included the baseline data

129  
00:05:27,160 --> 00:05:32,200  
in orange here so we can see if we take

130  
00:05:30,220 --> 00:05:33,460  
a look at the IP group off the bat it

131  
00:05:32,199 --> 00:05:35,889  
dropped from a little over ten

132  
00:05:33,459 --> 00:05:38,019  
centimeters to not quite to with a

133  
00:05:35,889 --> 00:05:39,728  
standard deviation that's markedly

134  
00:05:38,019 --> 00:05:42,129  
different from where we were at baseline

135  
00:05:39,728 --> 00:05:44,319  
we actually see in the prayer that would

136  
00:05:42,129 --> 00:05:47,639  
the group that did not receive prayer

137  
00:05:44,319 --> 00:05:49,719  
that although the overall size of the

138  
00:05:47,639 --> 00:05:51,819  
well the wounds and the standard

139  
00:05:49,720 --> 00:05:53,190  
deviation went down somewhat thank you

140  
00:05:51,819 --> 00:05:56,769  
i'll move through this fairly quickly

141  
00:05:53,189 --> 00:05:59,829  
i'm down to five minutes here so what we

142  
00:05:56,769 --> 00:06:02,168  
see happening is that the biggest change

143

00:05:59,829 --> 00:06:04,269  
is in the animals with the more severe

144  
00:06:02,168 --> 00:06:06,370  
wounds where we had three quarters of a

145  
00:06:04,269 --> 00:06:09,430  
centimeter difference there we're down

146  
00:06:06,370 --> 00:06:11,500  
to about one and a half but here we're

147  
00:06:09,430 --> 00:06:15,879  
down to not quite three centimeters down

148  
00:06:11,500 --> 00:06:17,680  
from 20 centimeters in change so a

149  
00:06:15,879 --> 00:06:19,360  
significant difference i'm going to move

150  
00:06:17,680 --> 00:06:21,189  
through relatively quickly so that you

151  
00:06:19,360 --> 00:06:22,319  
can see all the graphs a significant

152  
00:06:21,189 --> 00:06:25,560  
difference in the end

153  
00:06:22,319 --> 00:06:28,259  
wound area here's what happened

154  
00:06:25,560 --> 00:06:32,810  
remembering the graphs at baseline we

155  
00:06:28,259 --> 00:06:35,789  
see that this is changed decreased in

156  
00:06:32,810 --> 00:06:38,129  
the less of your group and markedly in

157  
00:06:35,790 --> 00:06:39,900

the more severe group we also have

158

00:06:38,129 --> 00:06:42,389

significant differences in terms of red

159

00:06:39,899 --> 00:06:44,279

blood cell data everything was

160

00:06:42,389 --> 00:06:46,379

significant what happened in blood blood

161

00:06:44,279 --> 00:06:48,149

cells increased in the parade for group

162

00:06:46,379 --> 00:06:51,029

they decreased in the group that did not

163

00:06:48,149 --> 00:06:52,829

receive prayer we saw haemoglobin

164

00:06:51,029 --> 00:06:55,619

increased in the group that was prayed

165

00:06:52,829 --> 00:06:58,649

for slight increase in the no prayer

166

00:06:55,620 --> 00:07:00,569

group hematocrit also increased in the

167

00:06:58,649 --> 00:07:02,969

prayer group less so in the group with

168

00:07:00,569 --> 00:07:05,459

no prayer what happened to the blood

169

00:07:02,970 --> 00:07:07,830

cells themselves again significant

170

00:07:05,459 --> 00:07:10,259

differences other than the concentration

171

00:07:07,829 --> 00:07:12,990

was approaching significance the MCHC

172  
00:07:10,259 --> 00:07:15,689  
the other variables were significant

173  
00:07:12,990 --> 00:07:17,819  
interestingly the size of the corpuscle

174  
00:07:15,689 --> 00:07:20,069  
decreased in the group that was prayed

175  
00:07:17,819 --> 00:07:22,920  
for slightly where it increased in the

176  
00:07:20,069 --> 00:07:25,019  
group that was not prayed for so we have

177  
00:07:22,920 --> 00:07:27,420  
smaller red blood cells there was a

178  
00:07:25,019 --> 00:07:29,879  
consequent change in terms of the amount

179  
00:07:27,420 --> 00:07:32,730  
of hemoglobin concentration with an

180  
00:07:29,879 --> 00:07:35,310  
increase in the prayer group the

181  
00:07:32,730 --> 00:07:37,740  
monocyte levels this was the only immune

182  
00:07:35,310 --> 00:07:39,839  
data that i had that changed remembering

183  
00:07:37,740 --> 00:07:43,050  
that the more severe animals at baseline

184  
00:07:39,839 --> 00:07:45,569  
were significantly lower they change to

185  
00:07:43,050 --> 00:07:48,060  
become significantly greater here's what

186  
00:07:45,569 --> 00:07:51,269  
happened to the monocytes in that group

187  
00:07:48,060 --> 00:07:57,480  
this was I'm sorry I've got my buttons

188  
00:07:51,269 --> 00:07:59,519  
off here here's where they were at

189  
00:07:57,480 --> 00:08:02,610  
baseline that's what happened at end of

190  
00:07:59,519 --> 00:08:04,189  
study so the animals that needed it the

191  
00:08:02,610 --> 00:08:06,170  
most God at where they needed it

192  
00:08:04,189 --> 00:08:08,279  
cortisol was not statistically

193  
00:08:06,170 --> 00:08:09,960  
significant but I present this data

194  
00:08:08,279 --> 00:08:12,119  
because it was a power issue clearly

195  
00:08:09,959 --> 00:08:14,159  
court has all changed more in the

196  
00:08:12,120 --> 00:08:16,530  
direction we expected in the prayer for

197  
00:08:14,160 --> 00:08:18,660  
the prayer group than the non prayer

198  
00:08:16,529 --> 00:08:20,969  
group although there was a decrease in

199  
00:08:18,660 --> 00:08:23,460  
cortisol in the animals that weren't

200

00:08:20,970 --> 00:08:25,410  
prayed for what happened to grooming

201  
00:08:23,459 --> 00:08:28,169  
changes in the direction that we would

202  
00:08:25,410 --> 00:08:29,950  
expect the duration not the frequency of

203  
00:08:28,170 --> 00:08:31,720  
the number of times at the end

204  
00:08:29,949 --> 00:08:33,129  
screw but the amount of time that they

205  
00:08:31,720 --> 00:08:35,500  
spent grooming their wounds was

206  
00:08:33,129 --> 00:08:38,289  
decreased significantly and the amount

207  
00:08:35,500 --> 00:08:40,809  
of time they spent overall grooming was

208  
00:08:38,289 --> 00:08:46,779  
significantly decreased and here's what

209  
00:08:40,809 --> 00:08:49,389  
those graphs look like so in summary the

210  
00:08:46,779 --> 00:08:51,399  
study supports IP induced improvements

211  
00:08:49,389 --> 00:08:53,230  
in wound healing the IP animals had

212  
00:08:51,399 --> 00:08:55,809  
greater reduction in wound area than the

213  
00:08:53,230 --> 00:08:57,879  
non IP animals one of the strengths of

214  
00:08:55,809 --> 00:08:59,679

the study is the convergent data that

215

00:08:57,879 --> 00:09:02,320

suggests that there are in fact pathways

216

00:08:59,679 --> 00:09:04,239

that would lead to the improved wound

217

00:09:02,320 --> 00:09:07,270

healing on the part of the animals to

218

00:09:04,240 --> 00:09:09,070

make some sense of the blood data when

219

00:09:07,269 --> 00:09:11,559

we see increased numbers of red blood

220

00:09:09,070 --> 00:09:13,570

cells hemoglobin and hematocrit that

221

00:09:11,559 --> 00:09:16,089

would support increased oxygenation

222

00:09:13,570 --> 00:09:18,640

which is critical to improve healing

223

00:09:16,090 --> 00:09:21,519

across time reduction in mean

224

00:09:18,639 --> 00:09:23,189

corpuscular volume hypothesis but

225

00:09:21,519 --> 00:09:25,899

perhaps that assisted with the

226

00:09:23,190 --> 00:09:28,210

extraction capability of being able to

227

00:09:25,899 --> 00:09:30,809

remove oxygen at the wound site by

228

00:09:28,210 --> 00:09:33,850

having somewhat smaller red blood cells

229  
00:09:30,809 --> 00:09:35,259  
in terms of the immunological changes

230  
00:09:33,850 --> 00:09:37,600  
there's some debate whether or not

231  
00:09:35,259 --> 00:09:39,669  
monocytes are macrophages and once they

232  
00:09:37,600 --> 00:09:41,170  
live in tissue are important to wound

233  
00:09:39,669 --> 00:09:42,729  
healing there's some question in the

234  
00:09:41,169 --> 00:09:44,620  
animal literature but will air on the

235  
00:09:42,730 --> 00:09:46,840  
side that in fact they are the

236  
00:09:44,620 --> 00:09:48,700  
significant improvement in monocytes may

237  
00:09:46,840 --> 00:09:50,620  
have actually supported the dramatic

238  
00:09:48,700 --> 00:09:53,950  
increase seen in the more severe group

239  
00:09:50,620 --> 00:09:56,919  
that received prayer changes in grooming

240  
00:09:53,950 --> 00:09:58,930  
and a decrease in cortisol though not

241  
00:09:56,919 --> 00:10:01,469  
statistically significant certainly

242  
00:09:58,929 --> 00:10:01,469  
could have had

