

# EFFECTIVENESS OF TRADITIONAL HEALERS IN PROGRAM TO CONTROL LEPROSY IN NAGAN RAYA DISTRICT IN ACEH

T. Alamsyah<sup>1</sup>, Said Usman<sup>2</sup>, Mutia Yusuf<sup>1</sup>, and Said Devi Elvin<sup>1</sup>

<sup>1</sup>Health Polytech Facility of Health Minister, Department of Nursing, Banda Aceh 23245, Indonesia

<sup>2</sup>Medicine Faculty, Syiahkuala University, Banda Aceh 23245, Indonesia

Correspondence should be addressed to Said Usman; [saidusmanmkes@yahoo.co.id](mailto:saidusmanmkes@yahoo.co.id) or [saidusman@unsyiah.ac.id](mailto:saidusman@unsyiah.ac.id)

## Abstract

Aceh Province had the highest rate of leprosy in Indonesia; in 2014, 436 new Multibacillary cases were reported. Nagan Raya was the District in Aceh with the highest number of cases; new cases in 2015 comprised 26 with Paucibacillary (PB) and 21 with Multibacillary (MB) with a total of 4.26% with Grade II disability. The phenomena of handling and treatment by the people in Nagan Raya involves treatment by traditional healers, 'Tabib', to treat the leprosy, with treatments known as *Peundang* locally. The purpose of this study was to find out and to take steps to improve the effectiveness of the Tabib in controlling leprosy in Nagan Raya. The main object of this study, which used a Quasi-Experimental design, was to find out and to improve the treatment of leprosy patients by the Tabib who treat them there. Data was gathered using a questionnaire with an interview and the intervention was to provide training and a pocket book about leprosy and how to detect, control and manage it there and the role that the Tabib can play in controlling leprosy in the future. The results of the study showed that there was a significant difference in knowledge about leprosy between the EG (Experimental Group) Tabib after they got the training including the pocket book and the Tabib in the Control Group (CG) ie. that didn't get any training nor the pocket book. Furthermore after the training, there was also a significant difference in the attitude towards leprosy between the EG and the CG of Tabib. There was also a significant difference in the future role of the Tabibs to control the spread of leprosy between the EG and the CG. Based on these results, it is hoped that the District Health Department can implement a partnership model with the Tabib in Nagan Raya (and elsewhere) to use the pocket book with training to implement a program to control the spread of leprosy and also to always support the Tabib to improve their role in controlling and eliminating leprosy amongst the village people.

Key words: Tabib, Disease Control Program, Leprosy. Patients, PWHHL Nagan Raya, Aceh

## Introduction

Leprosy is a chronic, infectious disease caused by a rod shaped, acid-fast bacteria called *Mycobacterium leprae* (*M. leprae*). This disease primarily affects the skin, the peripheral nerves, the mucosa in the upper respiratory tract and also the eyes (Amiruddin, 2012).

The World Health Organization (WHO, 2015) reports that in 2014 there were 180,618 official cases in 103 countries and in the same year there was 215,656 new cases. At present Indonesia is one of the countries with a high rate of leprosy. In 2013 Indonesia was number 3 in the world after India and Brazil with 16,856 cases and a total of 9.86% of new cases with Grade II disability (WHO, 2011). Leprosy is one of eight (8) Neglected Tropical Diseases (NTD) that still plague Indonesia including Filaria, Frambusia, Dengue, Helminthiasis, Schistosomiasis, Rabies and Taeniasis.

51 The Province of Aceh is one of the areas with the highest levels of Leprosy in  
52 Indonesia. In 2014, the number of new Multibacillary leprosy cases was 436 or 75% of  
53 new cases in Aceh and there were 145 cases of Paucibacillary leprosy or 25% of the total  
54 of 581 new cases. In 2014, the prevalence of leprosy in Aceh was 1.29 per 10.000 and the  
55 number with Grade II disability was 1.4 per 100.000 population. The District with the  
56 highest number of Grade II disabled persons was Aceh Barat Daya with 3 per 100.000  
57 (Dinkes Aceh, 2015). In 2015 in neighboring Nagan Raya District there were 26 new cases  
58 of Paucibacillary (PB) type and 21 of Multibacillary (MB) type and the total of Grade II  
59 disabled persons was 4.26%. There were 25 Tabibs actively treating lepers (Dinkes Nagan  
60 Raya, 2015).

61 Until now, leprosy still carries a stigma, so that it is difficult to find the leprosy cases  
62 and to manage appropriate treatment for them. The disfigurement from leprosy is often  
63 hideous to look at which can result in great fear of the sufferers which is called  
64 leprophobia. Even after leprosy patients have finished their therapy, and have obtained  
65 Release From Treatment (RFT), the stigma of leprosy stays with them for life. This stigma  
66 then becomes a psychological problem for the former sufferers. They feel disappointed,  
67 afraid and deeply sad inside; they lack self confidence, feel ashamed and worthless and of  
68 no use with their self-stigma. Furthermore, the public stigma also causes the leprosy  
69 patients and their families to distance themselves from other families as they are ostracized  
70 by other people (Kemenkes RI, 2013). Sufferers and People Who Have Had Leprosy  
71 (PWHHL) suffer stigma and discrimination in the form of rejection at schools and work  
72 places and in getting opportunities for work. PWHHL especially those who are severely  
73 crippled depend, both physically and financially on others and end up in poverty. The  
74 problems that come from leprosy are not just medical but also social, economic and  
75 educational problems. Most people in Nagan Raya District still have a negative stigma of  
76 leprosy patients and PWHHL, they still assume that leprosy is the result of a curse or a  
77 spell, of great sin, or of eating wrong foods or even is inherited. The result of the stigma is  
78 that the PWHHL are ostracized by people who think that they look disgusting and must be  
79 kept at a distance so sufferers try to find alternative treatments. This has resulted in the  
80 culture of handling and treating leprosy sufferers in Nagan Raya by traditional healers or  
81 Tabib as a form of local wisdom from the people there.

82 Tabib are traditional healers who live in Nagan Raya. Leprosy sufferers, who don't  
83 know that leprosy can be treated at the local Health Department clinics or Puskesmas, will  
84 usually try to get treatment for their leprosy from a Tabib. The treatment method for leprosy  
85 from the Tabib usually uses special prayers "rajah" and water that has been blessed plus  
86 ointment made from plants which is rubbed onto the diseased skin and other concoctions  
87 made from plants which are given through inhaling smoke made from smouldering them.  
88 These treatments are known as "Peundang" in Acehnese. Cures using Tabib treatments are  
89 doubtful and not yet proven scientifically (Shadiqin, 2015) According to several PWHHL  
90 who have previously been treated with "Peundang" this type of treatment is very hard to  
91 follow (Daud, 2009).

92 The role of the Tabib in handling and treating cases of leprosy in Nagan Raya is very  
93 significant. The villagers very much respect and value the Tabib so they believe what they  
94 say and will follow it. The phenomenon of the Tabib and their handling of sufferers and  
95 PWHHL has become a problem for the program to control leprosy being implemented by  
96 the government Health Service in Nagan Raya District

97 The role of the Tabib from one side is positive as they are capable of empowering the  
98 sufferers and the PWHHL who are put into isolation by their families and other villagers.  
99 However, from the viewpoint of treatment, what they have been doing has been against  
100 some of the basic principles for treating leprosy. This was influencing the results of the

101 program to control leprosy being implemented by the Nagan Raya Health Service. The  
102 Tabib as a local wiseman can be involved in 4 (four) of the 8 (eight) stages of the strategy  
103 to control leprosy, namely in early identification of cases, spreading information (about  
104 treatment), elimination of stigma and empowerment of leprosy patients and PWHHL.

105 Based on data and the phenomena which have been described above, the researchers  
106 wanted to try to find out how effective the role of the Tabib could be in the Program to  
107 Manage Leprosy in Nagan Raya. The purpose of this study was to find out and to improve  
108 how effective the role of the Tabib could be in the Program to Manage Leprosy in Nagan  
109 Raya District.

110

### 111 **Literature Review**

112 Leprosy is a chronic skin disease caused by an acid-fast bacteria, *Mycobacterium*  
113 *leprae*, which initially attacks the outer nerves and then, if not treated appropriately, spreads  
114 to other organs like the skin, the mucous glands, the kidneys, the testes and the eyes: It can  
115 cause great physical disfigurement and distress to sufferers and their families. Leprosy can  
116 start as a result of specific causes \*(Dessinioti & Katsambas, 2015). Specifically, the cause  
117 of leprosy is the bacteria, *Mycobacterium leprae*, getting into the human body through flesh  
118 wounds in the skin or through droplets inhaled when breathing and surviving and  
119 multiplying (Bhat & Prakash, 2012). The WHO (2012) has said that leprosy can be  
120 confirmed from the cardinal signs or primary symptoms of leprosy namely: a) Spots on the  
121 skin where there is no feeling; the spots can be white (hypopigmentasi) or reddish  
122 (erithematous) with thickening of the skin (plaquinfiltrate) or in the form of lumps. The loss  
123 of feeling can be loss of feeling when rubbed or cut or when heated or cooled eg by ice, and  
124 the symptoms can be total or only in some places. b) Thickening of the outer nerves  
125 accompanied by pain and interference with the functioning of the nerves concerned;  
126 sensory nerves lose their feeling, motoric nerves experience loss of muscular strength  
127 (parese) and even paralysis and disturbance of the autonomic nervous system accompanied  
128 by dry and cracked skin. Symptoms usually suffered by leper include fever while feeling  
129 cold and shivering, loss of appetite and/or feeling sick inside and occasionally vomiting:  
130 Lepers also suffer from headaches, inflammation of the testes, inflammation of the pleura  
131 (the chest), inflammation of the kidneys and sometimes malfunctioning of them too,  
132 enlargement of the liver and also of the gall bladder as well as inflammation of the nerve  
133 fibres (Farrar et al., 2013)

134 The psychological effects of leprosy on it's sufferers include the stigma held by the  
135 villagers namely that leprosy is an incurable, inherited disease which can be spread in many  
136 ways. This stigma, held by fellow villagers can cause leprosy patients to suffer terrible  
137 depression and even want to commit suicide (van Brakel, 2014). Stigmas like these, that are  
138 deeply held by the villagers cannot be easily overcome, legislation and successful  
139 rehabilitation of sufferers and elimination of recurrence of new cases of leprosy over time  
140 are needed to kill the stigma of leprosy. Also, in programs to handle leprosy, the spiritual  
141 factor, which is so important, is often overlooked and the focus is only on detection and  
142 treatment so that the programs for handling leprosy don't run well. The care of leprosy  
143 patients involves various aspects – after the person is physically healthy again, treatment  
144 must be continued, sometimes for a long time, to treat the person psychologically and  
145 emotionally (Grzybowski, et al., 2016). According to Hatzenbuehler et al., (2013), a stigma  
146 is any kind of physical and social attribute which lowers the self esteem and social  
147 acceptance of a person in some way including physically, socially, sexually and/or  
148 ethnically (Goffman, 2002; Kumar, 2001). The process of stigmatization occurs, according  
149 to ILEP (2011) when someone is seen as different, in a negative way, and is labeled  
150 accordingly eg., as a "leper". (Note: this term is now taboo as it labels the sufferer forever,

151 it is now appropriate to talk of “people with leprosy” for current sufferers and “PWHHL”  
 152 for ex-sufferers). Villagers then tend to prejudge, from a traditional viewpoint saying that it  
 153 is infectious, a curse, due to sins, dangerous and cannot be controlled and the person  
 154 concerned cannot make decisions. The leprosy patient gets two stigma, namely the social or  
 155 public stigma from the villagers, which is the reaction of the villagers to the leprosy and the  
 156 self-stigma which is the personal reaction of the person when (s)he finds out that (s)he has  
 157 leprosy and these stigmas are connected with stereotypes, prejudice and discrimination  
 158 (Sermrittiron & Van, 2014). Leprosy patients get stigmatized very easily due to uncivilized  
 159 and primitive behavior (by other people). Negative stigma from the villagers affects social  
 160 interactions with leprosy patients so that, frequently, they do not get opportunities to work  
 161 and so they remain unemployed. Discrimination at work also occurs when a person is  
 162 denied work because of some physical factor (eg. physical impairment due to leprosy)  
 163 without looking at their qualifications or ability (Garbin et al., 2015). Furthermore  
 164 unemployment causes people to lose self-confidence, to isolate themselves and eventually  
 165 to give up ie. Self-stigma. Unemployment and lack of opportunities to get a career are key  
 166 factors in mental health which can cause psychological pressures from slight to serious  
 167 depression and even for some lepers to want to and sometimes to succeed at committing  
 168 suicide (White & Franco-Paredes, 2015).

## 169 Method

170 A quasi-experimental design, with a training program and a pocket book for the  
 171 Experimental Group (EG), was used for this research: This study was done to find out and  
 172 to improve the effectiveness of the role of the Tabib, the traditional healers, in the Program  
 173 to Manage Leprosy in Nagan Raya District. Data was obtained from a questionnaire (See  
 174 Appendix 1) plus interviews and document study. Before the field work for this study  
 175 began the District Health Service (DHS) prepared a pocket book for identification,  
 176 management, treatment and cure of leprosy, based on current knowledge, best practices and  
 177 a literature survey (Depkes, 2006; Kemenkes, 2013). The Health Service in Nagan Raya has  
 178 a list of all the Tabib practicing traditional medicine there: From this list, 120 Tabib were  
 179 selected by random sampling and these were randomly divided into two groups, 60 in the  
 180 EG to get training and 60 in a Control Group (CG). On 25<sup>th</sup> July, 2016, each group were  
 181 invited to separate meetings at the DHS offices in Suka Makmur, Nagan Raya, where they  
 182 were given the pre-test questionnaire. Then after their pre-test the EG were trained on  
 183 identifying and managing leprosy and were given a copy of the pocket book that had been  
 184 prepared (Kemenkes, 2013). During the next two weeks, DHS Officers made in situ visits  
 185 to the EG Tabib in their villages to observe their management of leprosy. Then, on the 12<sup>th</sup>  
 186 August, both groups, EG & CG, were again invited to separate meetings in Suka Makmur  
 187 where they were again given the same questionnaire, this time as a post-test. The results  
 188 obtained were later analysed statistically and are summarized later in this paper.

## 189 Results

190 **Results**  
 191 Table 1. Tabibs’ Knowledge, Attitude & Effectiveness Prior to & After Treatment

Factor	EG	CG	Diff.	P Values
Prior Knowledge of Leprosy	32	29	3	0.442
Knowledge After Treatment	36	26	19	0.010
Prior Attitude to Leprosy	33	28	5	0.194
Attitude After Treatment	35	27	8	0.040
Prior Effectiveness of Tabibs	31	30	1	0.795
Effectiveness After Treatment	40	22	18	0.001

192  
 193  
 194  
 195  
 196  
 197  
 198  
 199 Based on Table 1 above, in the pre-test no significant difference was found between prior  
 200

201 knowledge about leprosy of the EG compared with that of the CG but there was a  
202 significant difference in the knowledge about leprosy in the post-test results from the EG  
203 Tabibs with the results from the CG Tabibs.

204 Based on Table 1 above we find that for the pre-test of the attitudes to leprosy there was no  
205 significant difference between the mean values of the EG and those of the CG in the pre-  
206 test of their Attitudes to Leprosy but there was a significant difference in the attitudes to  
207 leprosy in the post-test results from the EG Tabibs compared with that from the CG Tabibs.  
208 Based on Table 1 above we find that for the pre-test of the effectiveness of their role in  
209 controlling leprosy there was no significant difference between the mean values of the EG  
210 and those of the CG in the pre-test for Effectiveness of Role in Controlling Leprosy but  
211 there was a very significant difference in the effectiveness of their roles for controlling  
212 leprosy in the post-test results from the EG Tabibs compared with the results from the CG  
213 Tabibs

214

## 215 **Discussion**

### 216 **(1) Knowledge about Leprosy**

217 The results from Table 1 above show that in the first pretests there was no significant  
218 difference in knowledge about leprosy between the Tabibs in the Experimental Group (EG)  
219 and those in the Control Group (CG). However, the results of the post-test, after the  
220 treatment, show that there was now a significant difference in knowledge about leprosy of  
221 the EG with that of the CG Tabibs showing that the training plus the pocket books about  
222 leprosy had been effective in increasing the knowledge about leprosy of the Tabibs.

223 This result of the study concerning knowledge about leprosy of the Tabib is in  
224 accordance with the theories of Notoadmodjo (2007), who has said that health education is  
225 an activity to create behaviour amongst people which will be conducive to better health  
226 outcomes. Meaning that health education is an effort made to raise the awareness and  
227 knowledge (about health) amongst people so that they will maintain their health, avoid or  
228 prevent things that will damage their health and that of other people and they will know  
229 where to find treatment if they become sick and so on.

230 The purpose of health education is to develop and increase 3 behavioural domains  
231 viz: the cognitive, affective and psychomotor domains.

232 Based on the explanations above, in summary it can be said that because the  
233 Experimental Group of Tabibs had been given some training and had absorbed the contents  
234 of the pocket book their knowledge about leprosy and how to control it had increased  
235 significantly.

236

### 237 **(2) Attitudes to Leprosy**

238 The results in Table 1 above show that in the pretests there was no significant  
239 difference in attitude towards leprosy between the Tabibs in the EG and those in the CG.  
240 However, the results of the post-test, after the treatment with the pocket books, shows that  
241 there was now a significant difference in attitudes to leprosy of the EG with that of the CG  
242 Tabibs showing that the training with the pocket books about leprosy had been effective in  
243 improving the attitudes of the EG Tabibs to leprosy.

244 The results above from this study concerning the attitudes of the Tabib to leprosy are  
245 parallel with those found by Azwar (2009), in particular, factors which affect the attitudes  
246 of a person include experience, ie. events and happenings which occur repeatedly and  
247 continuously and which are absorbed by the individual will affect their attitudes (Goffman,  
248 2002). In this study, the EG Tabibs were given continuous explanations about how to  
249 control leprosy from the pocket book so that step-by-step the attitudes of the EG Tabibs to  
250 leprosy and how to manage it changed.

251 Azwar (2009) has said that another factor which affects attitudes is the environment  
252 (including the local culture) which helps form the personality of a person.

253 Personality is a consistent pattern of behaviour which results from reinforcement. The  
254 pattern of reinforcement from other people forms the attitudes and behaviour concerned.

255 The connection between this with the present study concerning the attitudes of the  
256 Tabibs was the creation of an environment where the EG Tabibs could learn about  
257 controlling leprosy through interventions resulting from changes in the role of the Tabibs  
258 including early identification of new cases, spreading information (about management of  
259 leprosy), removing the stigma of leprosy and empowering their leprosy patients; so  
260 strengthening the role of the Tabibs through the pocket book affects the attitude of the  
261 Tabibs to their leprosy patients. To summarise: The use of the pocket book to improve the  
262 role of the Tabibs in controlling leprosy effectively improved the attitudes of the EG Tabibs  
263 to be significantly more positive when treating leprosy patients in Nagan Raya.

264

### 265 (3) Role in Handling Leprosy

266 The results from Table 1 show that in the pre-tests there was no significant difference  
267 between the two groups of Tabibs concerning the role of the Tabibs in the management of  
268 leprosy. However, the results from the post-tests after the EG had had the treatment with  
269 the pocket book, shows that there was now a significant difference between the role of the  
270 EG Tabibs in the management of leprosy with that of the CG Tabibs showing that the training  
271 with the pocket books about leprosy had been effective in changing the EG Tabibs views of  
272 their role in managing leprosy whilst the views of the CG Tabibs concerning their role had  
273 not changed.

274 The increase in the self-image of the EG Tabibs in their role in managing leprosy was  
275 because of the motivation given them by the researchers through the pocket book that they  
276 had prepared and distributed to the EG Tabibs.

277 These results are similar to those found by Notoatmodjo (2007), which showed that  
278 motivation is a requirement of people to participate, without motivation it is difficult to get  
278 people to participate in any program.

279 The growth of self-motivation must come from the people themselves whilst outsiders  
280 can only provide support and external motivation. As a result health education is very much  
281 needed to provide the framework for motivation to grow amongst people

282 Another factor which helped increase the role the Tabibs could play in managing  
283 leprosy was the involvement and partnership with the leprosy specialist workers from the  
284 Nagan Raya Health Division in managing leprosy in the District.

285 This is in accordance with the concepts for empowering people in health mana-  
286 gement, ie. the involvement of people in health management depends very much on the  
287 needs of the people, the level of involvement and the program of partnership between the  
288 people and the government (Kemenkes RI, 2012).

289 Furthermore the National Health Department (Kemenkes RI, 2012) says that the role  
290 of people in health management is very much influenced by directly feeling the (health)  
291 benefits of the activities and the opportunities for the people to participate in the  
292 maintenance of health as well as the role of the local leaders (in the activities). In this study  
293 the EG Tabib were given information about the benefits to all villagers from taking steps to  
94 manage, control and eliminate leprosy.

295 The Tabib were also given the opportunity to be directly involved with the leprosy  
296 health workers from the Nagan Raya Health Division in activities with the villagers to  
297 promote health measures to avoid leprosy, to stop it's spread, to permanently cure lepers  
298 and to empower the PWHHL or ex-leprosy sufferers.

299 Based on the above it can be seen that after the EG Tabib learnt the true facts about

300 leprosy from the pocket book and training provided by the researchers working with the  
 301 Nagan Raya Health Service the role of these Tabib in controlling leprosy in Nagan Raya  
 302 increased greatly.

303

### 304 **Conclusions**

305 The results from this study can be summarised as follows:

306 No difference was found in the prior knowledge about leprosy between the training  
 307 group (EG) of Tabibs and the control group(CG) in the pre-test. Then after training and  
 308 studying the pocket book the results from the post-test showed that knowledge about  
 309 leprosy amongst the EG of Tabibs who got the training was then significantly greater than  
 310 that of the CG of Tabibs.

311 There was no difference in the initial attitude to leprosy amongst the EG of Tabibs and  
 312 the CG which was shown by the pretests. Then after the training with the pocket book the  
 313 post-test results showed that the EG Tabibs had a much better attitude to leprosy than the  
 314 CG Tabibs

315 There was no difference in the initial role for controlling and management of leprosy  
 316 between the EG of Tabibs and the CG as shown by the pre-tests. Then after the training and  
 317 studying the pocket books the post-test results showed that the EG Tabibs had a  
 318 significantly better attitude to their role in controlling and managing leprosy than the CG  
 319 Tabibs.

320 To summarize: The training of the Tabib and supplying them with a pocketbook about  
 321 the identification, management, treatment and curing of leprosy increased the Tabib's  
 322 knowledge about leprosy, improved their attitude towards leprosy and empowered the  
 323 traditional Tabib to play a much better role in the identification, management and curing of  
 324 villagers with leprosy in partnership with the treatment provided by the local District Health  
 325 service and it is to be hoped that this successful intervention for the identification,  
 326 treatment, management and curing of leprosy can be replicated in all areas of Aceh and  
 327 expanded to all areas of Indonesia until leprosy is eliminated from Indonesia and indeed  
 328 from Asia and even the world, so it becomes a legend in the future,

329

### 330 **Acknowledgements:**

331 We thank the Head of the Health Service in Nagan Raya District, Mr.T. Jamalul  
 332 Alamuddin, S. Sos. MM for giving us permission to do this research study and for  
 333 permission to publish the results.

334 We thank all the Tabibs for agreeing to participate in this research study and for giving  
 335 permission to use the data and information they gave to the study anonymously.

### 336 **Ethical Clearance:**

337 Ethical clearance for publishing the results of this study has been given by the Department  
 338 of Nursing at Syiah Kuala University where the writer-researchers work.

### 339 **Funding:**

340 We thank the Aceh Health Polytechnic for funds to do this Research amounting to  
 341 Rp.30,482,000 { About US\$ 2,000}.

### 342 **Competing Interests**

343 The authors have all declared that no competing interests exist.

344

### 345 **References**

346 Amiruddin, M.D. (2012). *Penyakit kusta sebuah pendekatan klinis*. Surabaya : Brilian  
 347 Internasional.

348 Azwar (2009). *Sikap manusia teori dan pengukurannya*. Yogyakarta : Pustaka Pelajar

349

- 350 Bhat, R. M., & Prakash, C. (2012). Leprosy: an overview of pathophysiology.  
351 *Interdisciplinary perspectives on infectious diseases, 2012.*
- 352 Daud, T. S. (2009). *Tabib Seunagan dan Thariqat Syattariyah.* Jakarta: Karya Sukses  
353 Sentosa.
- 354 Dessinioti, C., & Katsambas, A. D. (2015). Leprosy (Hansen's disease) *European*  
355 *Handbook of Dermatological Treatments* (pp. 513-519): Springer.
- 356 Depkes, R. I. (2006). *Buku Pedoman Nasional Pemberantasan Penyakit Kusta.* Jakarta:  
357 Depkes RI.
- 358 Dinkes Aceh (2015). *Profil Kesehatan Provinsi Aceh Tahun 2015.*
- 359 Dinkes Nagan Raya (2015). *Data Kusta Kab. Nagan Raya, 2015.* Not published.
- 360 Farrar, J., Hotez, P. J., Junghanss, T., Kang, G., Lalloo, D., & White, N. J. (2013).  
261 *Manson's Tropical Diseases E-Book:* Elsevier Health Sciences
- 362 Garbin, C. A. S., Garbin, A. J. Í., Carloni, M. E. O. G., Rovida, T. A. S., & Martins, R. J.  
363 (2015). The stigma and prejudice of leprosy: influence on the human condition.  
364 *Revista da Sociedade Brasileira de Medicina Tropical, 48(2), 194-201.*
- 365 Goffman (2002). Stigma of mental illness: changing minds, changing behaviour. *British*  
366 *Journal Of Psychiatry.*
- 367 Grzybowski, A., Sak, J., Pawlikowski, J., & Nita, M. (2016). Leprosy: Social implications  
368 from antiquity to the present. *Clinics in dermatology, 34(1), 8-10.*
- 369 Hatzenbuehler, M. L., Phelan, J. C., & Link, B. G. (2013). Stigma as a fundamental cause  
370 of population health inequalities. *American journal of public health, 103(5), 813-*  
371 *821.*
- 372 ILEP. (2011). *The Guidelines To Reduce Stigma:* Holland; The International Federation of  
373 Anti-Leprosy Associations (ILEP) and the Netherlands Leprosy Relief (NLR). Kemenkes,  
374 R. I. (2013). *Buku Pedoman Nasional Pemberantasan Penyakit Kusta.* Jakarta:  
375 Depkes RI.
- 376 Notoatmodjo, S. 2007. *Promosi Kesehatan dan Ilmu Perilaku.* Jakarta : Rineka Cipta.
- 377 Sermrittirong, S., & Van, W. (2014). How to reduce stigma in leprosy—a systematic. *Lepr*  
378 *Rev, 85, 149-157.*
- 379 Setiawati, I. (2008). Peran komunikasi massa dalam perubahan budaya dan perilaku  
380 masyarakat. *Fokus Ekonomi, 3(2), 44-55.*
- 381 Shadiqin, S. I. (2015). Di Bawah Payung Tabib: Sejarah, Ritual, Dan Politik Tarekat  
382 Syattariyah Di Pantai Barat Aceh. *Substantia, 19(1), 75-98*
- 383 Van Brakel, W. (2014). Stigma in leprosy: concepts, causes and determinants. *Leprosy*  
384 *review, 85, 36-47.*
- 385 White, C., & Franco-Paredes, C. (2015). Leprosy in the 21st century. *Clinical microbiology*  
386 *reviews, 28(1), 80-94.*
- 387 WHO (2011). *Enhanced Global Strategy for Further Reducing the Disease Burden due to*  
388 *Leprosy.* Regional Office for South-East Asia, Indraprastha Estate, Mahatma Gandhi  
389 Marg, New Delhi.
- 389 WHO. (2012). *WHO Expert Committee on Leprosy: eighth report:* Geneva: WHO.
- 390 WHO (2015). *Leprosy.* Accessed 26 December 2015 from <http://www.who.in>
-



