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# BMJ Open

**Experience of breast cancer patients on traditional treatment and healers' understanding of causes and clinical manifestations of breast cancer in North Shewa zone, Ethiopia: a phenomenological study**

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2022-063726
Article Type:	Original research
Date Submitted by the Author:	14-Apr-2022
Complete List of Authors:	Mekonnen, Alemayehu; Debre Berhan University, Nursing; Gebeyehu, Belete ; College of Natural and Computational Sciences Debre Berhan University, Department of Chemistry Woldearegay, Mesfin; College of Natural and Computational Sciences Debre Berhan University, Department of Biology
Keywords:	PUBLIC HEALTH, Breast tumours < ONCOLOGY, Maternal medicine < OBSTETRICS

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3 1 **Experience of breast cancer patients on traditional treatment and**  
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5 2 **healers' understanding of causes and clinical manifestations of breast**  
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7 3 **cancer in North Shewa zone, Ethiopia: a phenomenological study**  
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14 4 Alemayehu Gonie Mekonnen<sup>1\*</sup> [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)

15 5 Belete Tewabe Gebeyehu<sup>2</sup> [beletetewabe@gmail.com](mailto:beletetewabe@gmail.com)

16 6 Mesfin Woldearegay<sup>3</sup> [mesfinwa@gmail.com](mailto:mesfinwa@gmail.com)  
17  
18  
19  
20  
21  
22  
23

24 8 **Authors' affiliation**

25  
26  
27 9 <sup>1\*</sup>School of Nursing and Midwifery, Asrat Woldeyes Health Science Campus, Debre Berhan  
28 University, Ethiopia.

29  
30 10 <sup>2</sup>Department of Chemistry, College of Natural and Computational Sciences, Debre Berhan  
31 University, Ethiopia.

32 11 <sup>3</sup>Department of Biology, College of Natural and Computational Sciences, Debre Berhan  
33 University, Ethiopia.  
34  
35  
36  
37  
38  
39  
40  
41  
42

43 15 **Correspondance to Alemayehu Gonie Mekonnen**

44  
45 16 <sup>1\*</sup>School of Nursing and Midwifery, Asrat Woldeyes Health Science Campus, Debre Berhan  
46 University, Ethiopia. Email [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)  
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## 18 Abstract

19 **Objectives:** Despite a high number of traditional healers (THs) who have been treating cancer  
20 patients in Ethiopia, there is limited evidence that explored the lived experience of breast cancer  
21 patients on traditional treatment and healers' understanding of causes and clinical manifestations  
22 of breast cancer in Ethiopia.

23 **Design:** A phenomenological study design was employed.

24 **Setting:** This study was conducted in North-Shewa zone of Ethiopia.

25 **Participants:** Eight in-depth interviews were conducted with breast cancer patients and traditional  
26 healers. Semi-structured interview guides were used to collect data from the two groups of  
27 respondents. All interviews were audio-recorded. The recorded data were transcribed verbatim.  
28 Coding and marking were then performed to make the raw data sortable. Marked codes were then  
29 summarised and categorized into themes.

30 **Results:** In this study, most of THs were not aware that the causes of breast cancer. They did not  
31 mention lifestyle factors of breast cancer such as cigarette smoking, alcohol drinking, and dietary  
32 habits. However, some of THs mentioned a combination of two signs and symptoms of breast  
33 cancer. The most common clinical manifestations mentioned by THs were lumps at the breast,  
34 discharge from the nipples and weakness. Regarding the lived experience of breast cancer patients  
35 on treatment, most of them were unsatisfied with modern treatments at healthcare facilities and  
36 they believed that modern medicines have no effect on the healing of their diseases and they  
37 eventually referred themselves to the THs.

38 **Conclusions:** THs know the basic signs and symptoms of breast cancer. Breast cancer patients  
39 referred themselves to the THs. Due attention should be given to traditional treatments to better  
40 meet the needs of survival of women with breast cancer in Ethiopia.

## 41 **Strengths and limitations of this study**

- 42       ➤ To the best of our knowledge, this is the first qualitative study that explored the experiences  
43           of breast cancer patients on traditional treatments and traditional healers' understanding of  
44           the causes, clinical manifestations and treatment of breast cancer in Ethiopia.
- 45       ➤ However, reports from limited geographic area might limit the generalizability of the  
46           findings.
- 47       ➤ Due to cultural influences, some study participants might not reflect their actual  
48           perceptions and they restricted to provide unfavorable comments to their healers.

## 50 **Background**

51 Breast cancer (BC) is the leading cause of cancer morbidity and mortality among females in  
52 Ethiopia. It accounts for about 33% of the total cancer cases and 23% of all cancer deaths.<sup>1</sup> The  
53 number has been projected to be doubled by 2030 due to the increasing prevalence rate of  
54 established risks such as smoking, overweight, physical inactivity as well as increasing  
55 urbanization and fast growth of Ethiopian population.<sup>2</sup> Breast cancer is associated with poor  
56 quality of life of the women and significantly affect the quality of life of the families.<sup>3,4</sup> The  
57 treatment outcome of breast cancer depends on stage and patient factors.<sup>5</sup>

58 The use of traditional treatments is common among cancer patients in Ethiopia.<sup>6</sup> Available studies  
59 reported that more than 52% of cancer patients used alternative remedies from traditional healers  
60 (THs).<sup>6,7</sup> In particular, a substantial proportion of women with breast cancer commonly used  
61 alternative treatments from traditional healers before or after starting western treatments such as  
62 chemotherapy.<sup>8-10</sup> They perceived that traditional medicines are more likely safe, reduce tumour  
63 size, improve clinical symptoms and their quality of life.<sup>2</sup> Besides, traditional healers and  
64 community members give hope to cancer patients that if they are treated by THs, they can be  
65 cured.<sup>6,11</sup>

66 Using traditional medicines is deep-rooted among Ethiopian populations and THs have an  
67 important place to meet the healthcare needs of many rural populations and they play a vital role  
68 in the treatment of cancer in Ethiopia.<sup>2, 12</sup> As documented by various ethnobotanical studies  
69 conducted in different parts of Ethiopia, traditional healers from different parts of the country use  
70 diverse medicinal plants to manage all cancer-like symptoms.<sup>13</sup> Cancer patients believed that their  
71 disease is the wrath of God and should be treated with the help of spiritually-oriented healers. They  
72 avoid modern medicine believing that spiritual solutions are more effective than modern  
73 medicine.<sup>5,14</sup> The healers also believed that they got the treatment skills from supernatural,  
74 experience, and family heritage.<sup>5</sup>

75 Despite a high number of THs who have been treating cancer patients in Ethiopia, little is known  
76 about their understanding of the causes and clinical manifestations of breast cancer and the roles  
77 they play in the treatment of the diseases. There is also limited evidence that explored the lived  
78 experience of BC patients on traditional and modern treatments in Ethiopia. This study, therefore,

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2  
3 79 aimed to explore lived experience of breast cancer patients on traditional treatment and healers'  
4 80 understanding of causes and clinical manifestations of breast cancer in Ethiopia, a country where  
5 81 there are high rates of breast cancer patients and traditional healers. Understanding both issues has  
6 82 a paramount significance to integrate traditional medicine into conventional cancer care to better  
7 83 meet the needs and improve the experience of survival of women with breast cancer in Ethiopia.  
8 84 On the other hand, knowing the healers of understanding of breast cancer is the first step to improve  
9 85 the treating capacity of BC healers and to work out of modalities that healers commonly used.

## 15 86 **Methods**

### 17 87 **Study setting**

19 88 This study was conducted from February to April 2022 in North-Shewa zone, Amhara regional  
20 89 state, Ethiopia. The zone has twenty-four administrative districts with an estimated population of  
21 90 more than two million. There are more than six traditional healers for different type of diseases in  
22 91 the zone.

### 27 92 **Study design**

30 93 A phenomenological study design was employed to explore lived experience of breast cancer  
31 94 patients on traditional treatment and healers' understanding of causes and clinical manifestations  
32 95 of breast cancer. This study design was chosen because phenomenology focuses on the study of  
33 96 an individual's lived experiences of a phenomenon which in this case is the lived experience of  
34 97 breast cancer patients on traditional medicine and healers' perspective of cancer, its cause and  
35 98 treatment.<sup>16,17</sup> This study was conducted as a baseline to a broader ongoing investigation of  
36 99 traditional breast cancer treatment through reversed pharmacology.

### 43 100 **Study population and recruitment**

45 101 A total of 8 in-depth interviews were conducted with breast cancer patients and traditional healers.  
46 102 Four breast cancer patients who are currently attending traditional medicinal treatment at  
47 103 traditional healers were included. Similarly, four traditional healers who treat breast cancer  
48 104 patients were included in the study. Study participants were recruited through purposeful sampling  
49 105 and the sample size was determined based on information saturation.<sup>18,19</sup>

### 55 106 **Data collection procedure**

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3 107 Semi-structured interview guides were used to collect data from the two groups of respondents:  
4 108 breast cancer patients and traditional healers. Different interview guides were used for the two  
5 109 target groups. The interview guides consisted of sociodemographic, open-ended and probing  
6 110 questions. Study participants were interviewed individually in a private room. The three  
7 111 investigators conducted in-depth interviews to get the participants' lived experiences. One  
8 112 investigator was the interviewer and the rest two investigators took written notes. Additionally, all  
9 113 interviews were audio-recorded.

### 114 **Data processing and analysis**

115 Data were collected from two groups of study participants (breast cancer patients and their  
116 traditional healers) as person triangulation is useful to generate more comprehensive data [20].  
117 The recorded data were transcribed verbatim. Each transcript was read thoroughly to gain relevant  
118 concepts (respondent's lived experience) for the analysis. Line-by-line coding and marking were  
119 then performed by the primary investigator (AGM) to make raw data sortable. Marked codes were  
120 compared based on their similarities and then summarised and sorted into subcategories. These  
121 subgroups then were assembled into themes. Under each theme, quotes that best described the  
122 theme and were expressed frequently by participants were chosen and presented in italics.

### 123 **Patient and public involvement**

124 Breast cancer patients and traditional healers who resided in the study area were involved in the  
125 planning and implementation of this study. Leaders from district cultural and tourism office were  
126 part of this study and they guide the study team to ensure that the study is conducted in a culturally  
127 acceptable manner and to best fit the local context. The study objectives and tools were discussed  
128 with leaders of district cultural and tourism office. In addition, these local leaders will be involved  
129 in disseminations of study findings to make the population more confident in the results. The  
130 participation of these local leaders potentially increase acceptable and put into use of this finding.

### 131 **Ethical considerations**

132 Ethical approval was obtained from the research and ethical review committee of Debre Berhan  
133 University (Reference No: RCSVP/266/7-43174). Written informed consent was obtained from  
134 both groups of participants: breast cancer patients and traditional healers. All the information  
135 obtained from participants were kept confidential throughout the process of study, and the name

136 of the participant was replaced by code. Withdrawal from the study at any point if they wished  
 137 was assured.

## 138 **Results**

### 139 **Sociodemographic characteristics of study participants**

140 All breast cancer patients were in the age group of 35-44 years. Three of BC patients were married  
 141 and one participant divorced her relationship. Two participants had no formal education. All  
 142 healers were male, married and urban residents. They were in the age group of 45-54 years. Two  
 143 healers had no formal education and two healers had completed primary education. All healers  
 144 were farmers. Healers' years of practice ranged between 10 to 20 years (Table 1).

145 Table 1: Sociodemographic characteristics of study participants, April 2022.

Variables	Categories	Number of BC patients	Number of THs
Age	25-34	-	-
	35-44	4	1
	45-54	-	3
Sex	Male	-	4
	Female	4	-
Place of residency	Rural	4	
	Urban	-	
Marital status	Married	3	4
	Unmarried	-	-
	Divorced/widowed	1	-
Religion	Orthodox	2	2
	Muslim	2	2
Educational status	No education	2	2
	Primary	1	2
	Secondary	1	-
	College and above	-	-
Occupational status	Employed	-	-

	Housewife	3	-
	Farmer	1	4
	Other	-	
Healers' years of practice	5-9	-	-
	10-15	-	1
	16-20	-	3

## 146 Themes

147 Based on thematic analysis, the responses of the study participants are grouped into two categories:  
 148 traditional healers and breast cancer patients' responses. Under traditional healers, three themes  
 149 have emerged from the data: healers' understanding of causes, clinical manifestations of breast  
 150 cancer, and sources of knowledge about breast cancer treatment and treatment modalities that the  
 151 traditional healers used. Under the lived experience of BC patients on treatments, two themes have  
 152 emerged: lived experience of breast cancer patients on traditional and modern treatments. The  
 153 lived experience of breast cancer patients on modern treatments has emerged later. All of the  
 154 reported findings are taken inductively from participants' responses.

### 155 Subtheme one: traditional healers' understanding of causes of BC

156 Most of the traditional healers were not aware that the causes of breast cancer. They have not  
 157 mentioned lifestyle causes of breast cancer such as cigarette smoking, drinking alcohol and dietary  
 158 factors. Some participants mentioned genetic predisposition and infection, and one participant has  
 159 not mentioned any causes of breast cancer. A healer whose age range was 45-50 years old (R2)  
 160 said that:

161 *"... a breast cancer patient can have the diseases when her family had cancer*  
 162 *previously...It can also be caused by breast infection...."*

163 Another interviewee whose age range was 45-50 years old (R4) also said that:

164 *"for example, If a woman has a family history of breast cancer, if any of her family members*  
 165 *had cancer diseases previously, this may lead to breast cancer ....he also added that... breast*  
 166 *cancer can be caused by.... lifestyle of people nowadays is very bad ..."*

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3 **167 Subtheme two: traditional healers' understanding of clinical manifestations of BC**  
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6 168 Almost all traditional healers mentioned a combination of two signs and symptoms of BC. The  
7  
8 169 most commonly mentioned signs were swelling and discharge from the nipples. Weakness and  
9  
10 170 swelling of the arm were also mentioned by two healers. One participant mentioned breast pain  
11  
12 171 and the four stages of breast cancer. A healer whose age range was 45-50 years old (R2) stated  
13  
14 172 that:

15 173 *"...breast cancer patients first have a small swelling that seems like pea seed at the breast,*  
16  
17 174 *and then it grows to a size of an egg. They may have discharge from nipples...."*

18  
19 175 Another interviewee whose age was greater than 50 years old (R1) described the stages of BC:  
20

21 176 *"Firstly, breast cancer patients have swelling at a certain point of the breast and then it*  
22  
23 177 *became stage one, two and up to four. If breast cancer reached stage four, it could be*  
24  
25 178 *difficult to treat the diseases. Some of the patients commonly contacted me when their*  
26  
27 179 *breast cancer was at 3rd stage...and then I told them if they came late, I could not treat*  
28  
29 180 *cancer, if they contact me at the first stage, I gave the treatment and followed them...."*  
30

31 **181 Subtheme three: sources of knowledge about BC treatment**  
32

33  
34 182 All traditional healers that we interviewed got their knowledge of cancer treatment from their  
35  
36 183 ancestors and through experience. There were no traditional healers who got their knowledge from  
37  
38 184 education.  
39

40 **185 Subtheme four: treatment modalities that the traditional healers used**  
41

42 186 Treatment modalities used by the traditional healers include herbs for drinking and skin  
43  
44 187 application. Before initiating treatment, the healers check and confirm whether the patient had  
45  
46 188 been treated and diagnosed with breast cancer at the hospital. After confirmation of the disease,  
47  
48 189 the healers initiate treatment and follow the patients for 3-6 months depending on the stages of  
49  
50 190 breast cancer. The healers then ask the patient to mix the powdered herbs with one liter water and  
51  
52 191 drink a cup of this solution per day for the period of time that the healer suggests. The healer  
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54 192 counsel the client to finish the treatment for faster recovery. As quoted below, a healer whose age  
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56 193 range was 45-50 years old (R3) explained the technique that he treated his breast cancer patients.  
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3 194 *“First, I confirm whether women with breast cancer patients had been diagnosed with*  
4 *cancer at the hospital. After confirmation, I start treatment....certain dry herbs are*  
5 195 *grounded until it becomes powder, then I gave the powder to the client... they dissolve it*  
6 196 *with one litre of water and then they drink a cup of this solution per day. I did not add*  
7 *anything such honey, oil... ”. He added... I did not face any side effects, it is safe and*  
8 197 *everybody can drink”.*  
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11 199

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14 200 As the healer stated below (a healer whoes age range was 45-50 years old (R2)), he has successfully  
15 201 treated two breast cancer patients whose cancer stage was in early stage. As claimed by the healer,  
16 202 there are, however, treatment failures as the patient was already in the third stage of BC.

17  
18  
19  
20 203 *“...I can treat all types of cancer using herbs for drinking and skin application. I*  
21 204 *successfully treated a breast cancer patient whoes age group was 40-45 years old. Her*  
22 205 *breast cancer was in early stage, and she is now healthy and led her normal life and*  
23 206 *family”.*  
24  
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26  
27

#### 28 207 **Subtheme five: the lived experience of BC patients on modern treatments**

29  
30 208 This theme has arisen from participant responses that explain lived experiences related to modern  
31 209 treatment at healthcare facilities. Participants remember the situation that they faced during the  
32 210 diagnosis of breast cancer and the ongoing treatment they received from hospitals. The lived  
33 211 experience of breast cancer patients on modern treatments was well explained by a female  
34 212 participant who was unsatisfied with modern medicines and eventually referred themselves to the  
35 213 traditional healers. She (whoes age ranged 30-35 years old (R2)) stated that:  
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41 214 *“I tried all modern medicine at the hospital, but I did not get any improvement from the*  
42 215 *treatment, the symptoms are not reduced....I look for traditional healers and took the*  
43 216 *medicine from him and followed the treatment for a month.... Relatively, I have now some*  
44 217 *improvement in terms of pain and weakness”.*  
45  
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48

49 218 However, one breast cancer patients have a neutral perception concerning modern and traditional  
50 219 treatments and used a combination of traditional medicine and modern treatments such as  
51 220 chemotherapy. A female interviewee (whoes age range was 45-50 years old (R3)) said that;  
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3 221 *“I was given cancer treatment (chemotherapy) from the Black Lion hospital and*  
4 222 *completed two cycles of treatment. I also met the healer by hoping that my pain would be*  
5 223 *reduced because I have pain around my shoulder and neck”.... She added... still I am tring*  
6 224 *both treatments....*

### 225 **Subtheme six: the lived experience of BC patients on traditional medicine**

12  
13 226 In medical science, trust in treatments is enabling factor for the adherence of treatment and  
14 227 continuity of patient care. In this study, some breast cancer patients believed that traditional  
15 228 medicines are safe and effective. A woman interviewee (whoes age range was 40-45 years old  
16 229 (R1)) said that;

17  
18 230 *“I have been treated at Kemisie hospital for one year, but the pain was not reduced...I did*  
19 231 *not get an improvement at all. Then, I tried to search traditional healer because I heard*  
20 232 *that someone from Mekoy kebele could treat cancer patients. I started meeting him and*  
21 233 *took treatment for 6 months. Now, there is no pain and I am healed from the disease...I*  
22 234 *also gave birth and could breastfeed”.*

## 235 **Discussions**

23  
24 236 To the best of our knowledge, this is the first study that offered insight into the lived experiences  
25 237 of breast cancer patients on traditional treatments and traditional healers' understanding of the  
26 238 causes, clinical manifestations and treatment of breast cancer in Ethiopia. In this study, two groups  
27 239 of study participants (both breast cancer patients and their traditional healers) have participated as  
28 240 person triangulation is the best method to generate valid data and more comprehensive  
29 241 findings.<sup>15,20</sup>

30  
31 242 Under the main themes of THs' responses, healers' understanding of causes and clinical  
32 243 manifestations of breast cancer, sources of knowledge about BC treatment and the treatment  
33 244 modalities that the traditional healers used were explored. Accordingly, most of our study  
34 245 participants (breast cancer healers) were not aware of the causes of breast cancer. For example,  
35 246 they have not mentioned lifestyle factors of breast cancer such as cigarette smoking, alcohol  
36 247 drinking, and dietary habits which are the known risks for the development of cancer including  
37 248 breast cancer.<sup>21</sup> One participant mentioned genetic predisposition and breast infection, and another

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2  
3 249 participant has not mentioned any causes of breast cancer. Evidence also has supported that  
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5 250 familial breast gene mutations can cause the development of breast cancer.<sup>22</sup> Even though similar  
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7 251 misconceptions has been reported by related study <sup>10</sup>, there is no available evidence that breast  
8  
9 252 cancer could be caused by breast infection.

10  
11 253 Regarding healers' knowledge about clinical manifestations, the majority of breast cancer healers  
12  
13 254 mentioned a combination of two signs and symptoms of breast cancer. The most commonly  
14  
15 255 mentioned signs were swelling and discharge from the nipples. Weakness and swelling of the arm  
16  
17 256 were also mentioned by two healers. One participant mentioned breast pain and the four stages of  
18  
19 257 breast cancer. This indicates that this group of healers know the basic signs and symptoms of breast  
20  
21 258 cancer. If they are supported with scientific knowledge, they are able to treat patients appropriately  
22  
23 259 and professionally.<sup>23</sup>

24  
25 260 All traditional healers that we interviewed got their knowledge from their ancestors and through  
26  
27 261 experience. There were no THs who got their knowledge from education. Treatment modalities  
28  
29 262 used by the traditional healers include herbs for drinking and skin application. Even though all  
30  
31 263 breast cancer healers did not disclose the type of herbs they used, all healers followed similar  
32  
33 264 procedures to prepare the medicine. First, they grounded herbs and made ready for drinking and  
34  
35 265 skin application. When breast cancer patients come, the healers confirm whether the patient had  
36  
37 266 been treated and diagnosed with breast cancer at the hospital. The healers then ask the patient to  
38  
39 267 mix the powdered herbs with one litter water and drink a cup of this solution per day for the period  
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41 268 of time that the healer suggests. The healer counsel the client to finish the treatment for faster  
42  
43 269 recovery. However, different treatment modalities were practised in Ghana where traditional  
44  
45 270 healers applied herbs on the breast hoping the lump would disappear.<sup>24</sup>

46  
47 271 In the second main theme, lived experiences of breast cancer patients on modern and traditional  
48  
49 272 treatments were explored. Accordingly, breast cancer patients in this study reported that they were  
50  
51 273 unsatisfied with modern treatments at healthcare facilities and they believed that modern  
52  
53 274 medicines have no effect on the healing of their diseases and they eventually referred themselves  
54  
55 275 to the traditional healers. However, some breast cancer patients have a neutral perception in  
56  
57 276 relation to modern and traditional treatments and used a combination of traditional medicine and  
58  
59 277 modern treatments such as chemotherapy. In agreement with our study, previous studies have  
60  
278 reported that breast cancer patients desired to go to traditional healers because traditional medicine

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3 279 gives them temporary symptomatic pain relief from the disease.<sup>5,25,26</sup> Studies also explained the  
4 280 reasons why breast cancer patients referred themselves to traditional healers.<sup>27,28</sup> Even though our  
5  
6 281 study participants (breast cancer patients) believed that traditional medicines are safe and effective,  
7  
8 282 available ethnobotanical research findings conducted in Ethiopia reported few side effects.<sup>13,29</sup>  
9  
10 283 Thus, the further toxicological study shall be considered to protect the community from adverse  
11  
12 284 side effects of traditional medicine.

## 14 285 **Conclusions**

16  
17 286 In this study, THs know the basic signs and symptoms of breast cancer. Breast cancer patients  
18  
19 287 referred themselves to the THs. Due attention should be given to traditional treatments to better  
20  
21 288 meet the needs of survival of women with breast cancer in Ethiopia.

## 24 289 **Abbreviations**

26  
27 290 BC: Breast Cancer, THs: Traditional Healers.

## 30 291 **Ethics approval**

32  
33 292 Ethical approval was obtained from the research and ethical review committee of Debre Berhan  
34  
35 293 University (Reference No: RCSVP/266/7-43174). Written informed consent was obtained from  
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37 294 both groups of participants: breast cancer patients and traditional healers. All the information  
38  
39 295 obtained from participants were kept confidential throughout the process of study, and the name  
40  
41 296 of the participant was replaced by code. Withdrawal from the study at any point if they wished  
42  
43 297 was assured.

## 44 298 **Consent for publication**

46 299 Not applicable.

## 49 300 **Availability of data and materials**

51 301 The dataset(s) supporting the conclusions of this article is(are) included within the article.

## 54 302 **Funding**

303 This work was supported by Debre Berhan University. Award/grant number is not applicable.

304 **Disclaimer:** The funders had no role in study design, data collection and analysis, preparation of  
305 the manuscript, decision to publish and where to publish.

### 306 **Competing interests**

307 The authors declare that they have no competing interests.

### 308 **Authors' contributions**

309 AM, BG and MW conceived the study and supervised the data collection. AM developed the  
310 methodology, analyzed and interpreted the data. AM and BT wrote the main manuscript text. All  
311 authors reviewed the manuscript.

### 312 **Acknowledgement**

313 We would like to thank Debre Berhan University for financial supports. We are also grateful to  
314 our study participants for participating in this study.

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# BMJ Open

## Experience of breast cancer patients on traditional treatment and healers' understanding of causes and manifestations of breast cancer in North Shewa zone, Ethiopia: a phenomenological study

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2022-063726.R1
Article Type:	Original research
Date Submitted by the Author:	03-Aug-2022
Complete List of Authors:	Mekonnen, Alemayehu; Debre Berhan University, School of Nursing and Midwifery Gebeyehu, Belete ; Debre Berhan University, Department of Chemistry, College of Natural and Computational Sciences Woldearegay, Mesfin; Debre Berhan University, Department of Biology, College of Natural and Computational Science
<b>Primary Subject Heading</b>:	Oncology
Secondary Subject Heading:	Public health, Qualitative research, Palliative care
Keywords:	PUBLIC HEALTH, Breast tumours < ONCOLOGY, Maternal medicine < OBSTETRICS, Cancer pain < ONCOLOGY, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

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3 **1 Experience of breast cancer patients on traditional treatment and**  
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5 **2 healers' understanding of causes and manifestations of breast cancer**  
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7 **3 in North Shewa zone, Ethiopia: a phenomenological study**  
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14 4 Alemayehu Goni Mekonnen<sup>1\*</sup> [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)

15 5 Belete Tewabe Gebeyehu<sup>2</sup> [beletetewabe@gmail.com](mailto:beletetewabe@gmail.com)

16 6 Mesfin Woldearegay<sup>3</sup> [mesfinwa@gmail.com](mailto:mesfinwa@gmail.com)  
17  
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24 **8 Authors' affiliation**  
25  
26  
27

28 9 <sup>1</sup>School of Nursing and Midwifery, Asrat Woldeyes Health Science Campus, Debre Berhan  
29 University, Ethiopia.  
30

31 11 <sup>2</sup>Department of Chemistry, College of Natural and Computational Sciences, Debre Berhan  
32 University, Ethiopia.  
33  
34

35 13 <sup>3</sup>Department of Biology, College of Natural and Computational Sciences, Debre Berhan  
36 University, Ethiopia.  
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38  
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43 **15 Correspondance to Alemayehu Goni Mekonnen**  
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45

46 16 <sup>1\*</sup>School of Nursing and Midwifery, Asrat Woldeyes Health Science Campus, Debre Berhan  
47 University, Ethiopia. Email [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)  
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## 18 **Abstract**

19 **Objectives:** Despite a high number of traditional healers (THs) who treat cancer patients in  
20 Ethiopia, there is limited evidence that explored the lived experience of breast cancer (BC) patients  
21 about traditional treatment and healers' understanding of the causes and manifestations of BC.

22 **Design:** A phenomenological study design was employed.

23 **Setting:** This study was conducted in the North-Shewa zone of Ethiopia.

24 **Participants:** Eight in-depth interviews were conducted; four of which were with breast cancer  
25 patients and four with THs. Semi-structured interviewing techniques were used to collect data from  
26 the two groups of respondents. All interviews were audio-recorded. The recorded data were  
27 transcribed verbatim. Coding and marking were then performed to make the raw data sortable. The  
28 marked codes were then summarised and categorized into themes.

29 **Results:** In this study, the majority of THs were unaware of the main risk factors or causes of BC.  
30 They have not mentioned the lifestyle risk factors of BC such as smoking cigarettes, consuming  
31 alcohol, and eating habits. The most common clinical manifestations noted by THs were lumps at  
32 the breast, discharge from the nipples and weakness. All of the THs got their knowledge of BC  
33 treatment from their families and through experience. Regarding the lived experience of treatment,  
34 some BC patients perceived that traditional medicines were safer and more effective than modern  
35 treatments and they eventually referred themselves to the THs.

36 **Conclusions:** Although THs were unaware of the causes of BC, they were familiar with the basic  
37 signs and symptoms of the disease. BC patients referred themselves to the THs because they  
38 preferred traditional therapies to modern ones. In order to better satisfy the unmet needs of  
39 Ethiopian women with BC, due consideration should be given to traditional treatments.

## 40 **Strengths and limitations of this study**

- 41 ➤ This is the first qualitative study that offered insight into the lived experiences of BC patients  
42 on traditional treatments and THs' understanding of the causes, manifestations and treatments  
43 of BC in Ethiopia.
- 44 ➤ Some BC patients may unable to share their true perceptions and they were restricted from  
45 criticizing their healers.
- 46 ➤ The interpretation of findings from qualitative research may be affected by bias in providing  
47 patterns of meaning.
- 48 ➤ This study was only confined to a small geographic area of Ethiopia, and the generalizability  
49 of the findings to other settings may be limited.

## 50 Introduction

51 Breast cancer (BC) is the leading cause of cancer-related morbidity and mortality among women  
52 in Ethiopia. It accounts for about 33% of new cases of cancer and 23% of all cancer deaths.<sup>1</sup> This  
53 figure is expected to be doubled by 2030 due to the increasing prevalence rate of established risks  
54 such as cigarette smoking, being overweight and physical inactivity as well as rising urbanization  
55 and the rapid growth of the Ethiopian population.<sup>2</sup> BC is linked to poor quality of life of women  
56 and significantly affects the quality of life of the families.<sup>3,4</sup> The treatment outcome of BC depends  
57 on the stages of cancer and various patient factors; for example, treating the disease at an early  
58 stage has better results than treating it at an advanced stage.<sup>5</sup>

59 The use of traditional medicine is common among cancer patients in Ethiopia.<sup>6</sup> Available studies  
60 reported that more than 52% of cancer patients have seen traditional healers (THs) for alternative  
61 treatments.<sup>6,7</sup> Particularly, a substantial proportion of women with BC commonly employed  
62 alternative treatments from THs before or after starting modern treatments like chemotherapy.<sup>8-10</sup>  
63 Patients perceived that traditional medicines were more likely to be safe, reduce the size of  
64 tumours, alleviate their clinical symptoms, and improve their quality of life.<sup>2</sup> Additionally, THs  
65 and community members gave hope to cancer patients that if they received treatment from THs,  
66 they could be cured.<sup>6,11</sup>

67 Ethiopians have a long history of receiving treatment from THs and THs have an important place  
68 to meet the healthcare needs of many rural populations and play a vital role in the treatment of  
69 cancer in Ethiopia.<sup>2,12</sup> As documented by various ethnobotanical studies carried out in various  
70 regions of Ethiopia, THs employed a variety of medicinal plants to treat all cancer-like  
71 symptoms.<sup>13,14</sup> Some cancer patients also believed that their disease is the wrath of God and should  
72 be treated with the help of spiritually-oriented healers.<sup>14</sup> They did not seek out modern therapies  
73 because they believed that spiritual solutions were more effective than modern medicine.<sup>5,14</sup> The  
74 THs also believed that they got the treatment skills from supernatural, experience, and family  
75 heritage.<sup>5</sup>

76 Despite a high number of traditional healers (THs) who treat cancer patients in Ethiopia, there is  
77 limited evidence that explored the lived experience of BC patients regarding traditional treatment  
78 and THs' understanding of the causes and manifestations, and the roles that THs played in the

1  
2  
3 79 treatment of BC. There is also scant research on the therapeutic techniques employed by THs in  
4  
5 80 Ethiopia. This study, therefore, aimed to explore lived experiences of BC patients on their  
6  
7 81 treatment and the THs' understanding of causes and clinical manifestations of BC in Ethiopia, a  
8  
9 82 country with high rates of BC patients who receive treatment from THs. Understanding the  
10  
11 83 experience of BC patients' treatment and the practice of THs have a paramount significance to  
12  
13 84 integrate traditional medicine into conventional cancer care to better meet the needs of Ethiopian  
14  
15 85 women with BC. On the other hand, exploring THs' level of BC knowledge is the first step in  
16  
17 86 enhancing their capacity to treat cancer patients and collaborate with THs to create novel  
18  
19 87 therapeutic approaches.

## 18 88 **Methods**

### 19 89 **Study setting**

20  
21  
22  
23 90 This study was conducted from February to April 2022 in the North-Shewa zone, Amhara regional  
24  
25 91 state, Ethiopia. The zone has twenty-four administrative districts with an estimated population of  
26  
27 92 more than two million. There are more than six THs who have been treating various types of  
28  
29 93 diseases including cancer.

### 30 94 **Study design**

31  
32  
33 95 A phenomenological study design was employed to explore the lived experiences of BC patients  
34  
35 96 on their treatment and the THs' understanding of causes and clinical manifestations of BC. This  
36  
37 97 study design was chosen because phenomenology is the study of an individual's lived experiences  
38  
39 98 of a phenomenon, in this case, the lived experience of BC patients on traditional medicine and the  
40  
41 99 THs' perspective of BC, its cause and manifestations, and treatment modalities.<sup>15-17</sup> This study  
42  
43 100 was conducted as a baseline for a broader ongoing investigation of traditional BC treatment  
44  
45 101 through reversed pharmacology.

### 46 102 **Study population and recruitment**

47  
48  
49 103 A total of eight in-depth interviews were conducted; four of which were with breast cancer patients  
50  
51 104 and four with traditional healers. The BC patients are currently attending traditional medicinal  
52  
53 105 treatment from THs. Similarly, THs who treat women with BC were included in the study. Study  
54  
55 106 participants were recruited through purposeful sampling and the sample size was determined based  
56  
57 107 on information saturation.<sup>18,19</sup>

### 108 **Data collection procedure**

109 A semi-structured interviewing interview guide was used to collect data from the two groups of  
110 respondents: BC patients and THs. The interview guide consisted of socio-demographic data, and  
111 open-ended and probing questions (Supplementary file 1). The study participants were interviewed  
112 in a private room. The three investigators participated in the in-depth interviews. One investigator  
113 was the interviewer while the other two investigators took written notes. All interviews were also  
114 audio-recorded.

### 115 **Data processing and analysis**

116 Data were collected from two groups of study participants (i.e. BC patients and THs) as person  
117 triangulation is a useful technique to generate more comprehensive data [20]. The recorded data  
118 were transcribed verbatim. Each transcript was read thoroughly to gain relevant concepts  
119 (respondent's lived experience) for the analysis. AGM then performed line-by-line coding and  
120 marking to make the raw data sortable. Marked codes were examined for similarity and then  
121 summarized and sorted into subcategories. The subcategories then were assembled into themes.  
122 Under each theme, quotes that best described each theme and were expressed frequently by  
123 participants were chosen and presented in italics.

### 124 **Patient and public involvement**

125 BC patients and THs who resided in the study area were involved in the planning and  
126 implementation of this study. Leaders from the district cultural and tourism office were part of this  
127 study and they guide the study team to ensure that the study is conducted in a culturally acceptable  
128 manner and to best fit the local context. Leaders from the district cultural and tourism office were  
129 involved in the discussion of the study's aims and data collection tools. Besides, these local leaders  
130 will also participate in the distribution of study findings to increase public trust in the findings.  
131 The involvement of these local leaders could make the findings more acceptable.

### 132 **Ethical considerations**

133 Ethical approval was obtained from the research and ethical review committee of Debre Berhan  
134 University (Ref. No: RCSVP/266/7-43174). Written informed consent was obtained from both  
135 groups of participants: BC patients and THs. All the information obtained from participants was

136 kept confidential throughout the process of study, and the name of the participant was replaced by  
 137 a code. Withdrawal from the study at any point if they wished was assured.

## 138 **Results**

### 139 **Sociodemographic characteristics of study participants**

140 All BC patients were in the age group of 35-44 years. Three BC patients were married and one  
 141 participant divorced her relationship. Two THs and BC patients had no formal education. All THs  
 142 were male, married and rural residents. They were also in the age group of 45-54 years. Two THs  
 143 had no formal education and two THs had completed primary education. All THs were farmers  
 144 and their years of practice ranged between 10 to 20 years (Table 1).

145 Table 1: Sociodemographic characteristics of study participants, April 2022.

Variables	Categories	Number of BC patients	Number of THs
Age in years	25-34	-	-
	35-44	4	1
	45-54	-	3
Sex	Male	-	4
	Female	4	-
Place of residency	Rural	4	
	Urban	-	
Marital status	Married	3	4
	Unmarried	-	-
	Divorced/widowed	1	-
Religion	Orthodox	2	2
	Muslim	2	2
Educational status	No education	2	2
	Primary	1	2
	Secondary	1	-
	College and above	-	-
Occupational status	Employed	-	-

	Housewife	3	-
	Farmer	1	4
	Other	-	
THs' treatment practice (in years)	5-9	-	-
	10-15	-	1
	16-20	-	3

## 146 Themes

147 Based on thematic analysis, the responses of the study participants are grouped into two categories:  
 148 traditional healers' understanding of breast cancer and treatment modalities and the lived  
 149 experience of BC patients on treatments. Under understanding of breast cancer and treatment  
 150 modalities, three themes have emerged from the data: healers' understanding of BC causes, clinical  
 151 manifestations of BC, sources of knowledge of BC treatment, and the treatment modalities that  
 152 THs employed. Under the lived experience of BC patients on treatments, two themes have  
 153 emerged: the lived experience of BC patients on traditional and modern treatments. All of the  
 154 reported findings are taken inductively from participants' responses.

### 155 Traditional healers' understanding of breast cancer and treatment modalities

#### 156 Theme one: traditional healers' understanding of causes of BC

157 The majority of THs were unaware of the cause of breast cancer. They have not mentioned the  
 158 lifestyle risk factors for breast cancer such as smoking cigarettes, consuming alcohol, and eating  
 159 habits. Some participants have mentioned genetic predisposition and infection, whereas one  
 160 participant has not mentioned any cause of breast cancer. A healer who was between the ages of  
 161 45-50 (R2) stated that:

162 *"... a breast cancer patient may have the diseases when her family has h history of*  
 163 *cancer...It can also be caused by breast infection...."*

164 Another interviewee who was between the ages of 45-50 years (R4) also said that:

1  
2  
3 165 *“for example, if a woman has a family history of breast cancer, if any of her family members*  
4 166 *had cancer diseases previously, this may lead to breast cancer ....he also added that... breast*  
5  
6 167 *cancer can be caused by eating habits.... The lifestyle of people nowadays is changed...”.*  
7

### 9 168 **Theme two: traditional healers' understanding of clinical manifestations of BC**

10  
11 169 THs mentioned a combination of two signs and symptoms of BC. The most common clinical  
12  
13 170 manifestations noted by THs were lumps at the breast and discharge from the nipples. Weakness  
14  
15 171 and arm swelling were also mentioned by THs. One interviewee mentioned the four stages of  
16  
17 172 breast cancer and breast pain. A healer (who was in the age range of 45-50 years (R2)) stated that:

18  
19 173 *“... breast cancer patients initially have a pea-sized swelling at the breast, and then it*  
20  
21 174 *grows to the size of an egg. breast cancer patients may have discharge from nipples...”.*  
22

23 175 A healer who was in the age range of 45-50 years (R3) also reported weakness and arm swelling.

24  
25  
26 176 *“women with breast cancer may have arm swelling, feel weakness and pain around*  
27  
28 177 *shoulder ...”.*  
29

30 178 Another interviewee (who was greater than 50 years (R1) said that:

31  
32  
33 179 *“Firstly, breast cancer patients have a small swelling in a certain point on breast and then*  
34  
35 180 *it progresses to stage one, two and four. If breast cancer reaches stage four, it may be*  
36  
37 181 *difficult to treat the disease. Some of the patients commonly contacted me when their breast*  
38 182 *cancer was in its 3rd stage...”.*  
39

### 40 183 **Theme three: sources of knowledge about BC treatment**

41  
42  
43 184 All THs that we interviewed got their knowledge of BC treatment from their families and through  
44  
45 185 experience. There were no THs who got their knowledge from formal education. A healer who  
46  
47 186 was between the ages of 45-50 (R2) stated that:

48  
49 187 *“... my grandfather treated skin diseases/lesions with herbs, and I was aware of some of*  
50  
51 188 *the herbs that he used to treat the skin lesions. After he passed away, I tried using those*  
52  
53 189 *herbs to treat skin disease and many patients had been healed from the disease ...”.*  
54

55 190 A second interviewee (R4) who was 45-50 years said that:

1  
2  
3 191 *"... I got this knowledge through experience, and I used different herbs to treat the skin*  
4 *lesions including breast cancer .... "*  
5 192

#### 7 193 **Theme four: treatment modalities that the traditional healers used**

8  
9  
10 194 Within this theme, two subthemes have emerged later: drinking and skin application treatment  
11 195 modalities.

#### 14 196 **Subtheme 1: Drinking of herbs as a treatment modality**

16 197 Before initiating treatment, the healers check and confirm whether the patient had been treated and  
17 198 diagnosed with breast cancer at the hospital. Once confirmation is made, the healers initiate  
18 199 treatment and the patient is then instructed to combine the powdered herbs with one liter of water  
20 200 and drink a cup of this mixture every day for 3-6 months depending on the stages of breast cancer.  
21 201 The healer advises the patient to complete the course of treatment for a quicker recovery. As  
22 202 quoted below, one healer (who was in the age range of 45-50 years (R3)) explained the technique  
23 203 by which he treated his BC patients.

25 204 *"I start by checking whether women with breast cancer have received a medical diagnosis.*  
26 205 *After confirmation, I begin the treatment.... some dried herbs are ground into a powder,*  
27 206 *and then I give it to the customer. They then dissolve it in a liter of water and drink a cup*  
28 207 *of this solution once a day. I did not include anything like honey or oil.... He added... I*  
29 208 *have not experienced any side effects, it is safe, and everyone can drink it... "*

31 209 As the healer stated below (who was in the age range of 45-50 years (R2)), he had successfully  
32 210 treated two BC patients who were in the early stage of the disease. As claimed by the healer,  
33 211 however, there are treatment failures when the patients are already in the third stage of BC.

35 212 *"...I treat cancer using a drink made of powdered herbs. I was able to successfully treat a*  
36 213 *woman with breast cancer who was between the ages of 40 and 45. Her breast cancer was*  
37 214 *in its early stage and she is now healthy and living a regular life with her family".*

#### 51 215 **Subtheme 1: Skin application as a treatment modality**

53 216 Skin application was also employed by THs to treat breast cancer. A healer who was between the  
54 217 ages of 45-50 years (R4) reported that:

1  
2  
3 218 *“.....If breast cancer patients have lesions on the skin's surface, I topically apply herbs that*  
4 219 *have been powdered and dissolved in water to the affected breast.....”*.

## 220 **Lived experience of BC patients on treatments**

### 221 **Theme One: the lived experience of BC patients with modern treatments**

222 This theme has emerged from participants' lived experiences of modern treatment at healthcare  
223 facilities. BC patients recalled the situations they faced during the diagnosis of the disease and the  
224 ongoing treatment they received from hospitals. A breast cancer who was dissatisfied with modern  
225 treatments and eventually referred herself to TH described her personal experience of modern  
226 therapy. She (R2) said that :

227 *“I tried all modern treatments at the hospital, but I did not get any improvement of pain,*  
228 *the symptoms are not reduced.... I looked for a traditional healer took the medicine from*  
229 *him and followed the treatment for a month.... Relatively, I have now some improvement*  
230 *in terms of pain and weakness...”*.

231 One breast cancer patient, however, has a neutral perception of both modern and traditional  
232 treatments and has used a combination of those treatments. One interviewee who was between the  
233 ages of 45-50 years (R3) said that;

234 *“I received a cancer treatment (chemo) from the Black Lion hospital and have completed*  
235 *two cycles of treatment. I also went to the traditional healer by hoping that my pain would*  
236 *be reduced because I have pain around my shoulder and neck. .... She added... still I am*  
237 *using both treatments....”*.

### 238 **Theme two: the lived experience of BC patients in traditional medicine**

239 In medical science, trust in treatments is enabling factor in promoting treatment compliance and  
240 continuity of patient care. In this study, some breast cancer patients believe that traditional  
241 medicines are safer and more effective than modern treatments. A woman who was between the  
242 ages of 40-45 years old (R1) said that;

243 *“I had been treated at Kemisie hospital for one year, but the pain was not reduced... there*  
244 *was no improvement at all. Then, I tried to search for a traditional healer because I had*

1  
2  
3 245 *heard that someone from Mekoy kebele could treat persons with cancer. I met him and took*  
4 246 *treatment for 6 months. Now, there is no pain and I am healed from the disease... I also*  
5 247 *gave birth and am able to breastfeed... ”.*

8 248 A woman who was in 40-45 years old (R4) said that:

10 249 *“...I received treatment from the hospital, but I did not see any improvement. For me, the*  
12 250 *traditional healer was somewhat helpful. I am still taking traditional medicine.... ”.*

## 15 251 **Discussions**

17 252 To the best of our knowledge, this is the first study that offered insight into the lived experiences  
19 253 of BC patients on traditional treatments and THs' understanding of the causes, clinical  
21 254 manifestations and treatment of BC in Ethiopia. In this study, two groups of study participants  
23 255 (both breast cancer patients and their THs) participated as person triangulation is the best method  
25 256 to generate valid data and more comprehensive findings.<sup>15,20</sup>

27 257 Under THs' responses, healers' understanding of BC causes, clinical manifestations of BC, sources  
29 258 of knowledge of BC treatment, and the treatment modalities that THs utilized were explored.  
31 259 Accordingly, the majority of THs were unaware of the cause and risk factors of BC. For example,  
33 260 THs have not mentioned the lifestyle risk factors of BC such as smoking cigarettes, consuming  
35 261 alcohol, and eating habits which are the known risks for the development of cancer including breast  
37 262 cancer.<sup>21</sup> Two THs have also mentioned genetic predisposition and infection, whereas one  
39 263 participant has not mentioned any cause of breast cancer. Evidence also has supported that familial  
41 264 breast gene mutations can cause the development of breast cancer.<sup>22</sup> Even though similar  
43 265 misconceptions have been reported by a related study<sup>10</sup>, there is no available evidence that breast  
45 266 cancer could be caused by breast infection.

47 267 Regarding THs' understanding of clinical manifestations of BC, some of THs mentioned a  
49 268 combination of two signs and symptoms of BC. The most common manifestations noted by THs  
51 269 were lumps at the breast and discharge from the nipples. One participant mentioned the four stages  
53 270 of BC. This indicates that THs are familiar with the basic signs and symptoms of BC, and if they  
55 271 are supported by scientific knowledge, they are able to treat patients professionally.<sup>23, 24</sup> All THs  
57 272 that we interviewed got their knowledge of BC treatment from their families and through  
59 273 experience. There were no THs who learned treatment from formal education. The same was true

1  
2  
3 274 in Uganda, where herbalists learned about cancer treatment from their families and personal  
4 275 experiences.<sup>25</sup>  
5  
6

7 276 In this study, THs employed either drinking or skin application modalities to treat BC. Even though  
8  
9 277 all THs kept the type of herbs they used a secret, they all followed the same procedures to prepare  
10 278 the herbal medicine. They prepared the herbs for drinking and skin application by first grinding  
11  
12 279 them. Once the THs confirmed the diagnosis of BC, they initiate treatment and the patient is then  
13  
14 280 instructed to mix the powdered herbs with water and drink a cup of this mixture every day for the  
15  
16 281 period that the healer suggests. Some THs also used skin applications of herbs that were dissolved  
17  
18 282 in water. The same therapeutic approaches were practised in Ghana, where THs placed herbs on  
19  
20 283 the breast in hopes that the lump would disappear.<sup>24</sup> This suggests the necessity of setting up a  
21  
22 284 forum to provide THs access to scientific knowledge and to improve their responsibility for  
23  
24 285 traditional treatment.

25 286 Under the lived experience of BC patients on treatments, the lived experience of BC patients on  
26  
27 287 traditional and modern treatments was explored. As a result, some BC patients believed that  
28  
29 288 traditional medicines were safer and more effective than modern treatments. They claimed that  
30  
31 289 they were dissatisfied with modern treatments and eventually referred themselves to THs.  
32  
33 290 However, one BC patient had a neutral perception in relation to modern and traditional medicine  
34  
35 291 and has used a combination of those treatments. In agreement with our study, previous studies  
36  
37 292 reported that BC patients sought out THs because traditional medicine gave them temporary  
38  
39 293 symptomatic pain relief from the disease.<sup>5,25,26</sup> The available studies also explained the reasons  
40  
41 294 that led BC patients to seek out traditional treatments.<sup>27,28</sup> Although BC patients in our study  
42  
43 295 perceived that traditional medicines were safe and effective, the available ethnobotanical studies  
44  
45 296 conducted in Ethiopia revealed few side effects.<sup>13,29</sup> Consequently, further toxicological research  
46  
47 297 should be taken into consideration to protect the community from the adverse side effects of  
48  
49 298 traditional medicine.

50 299 Despite its strengths, this study has some methodological limitations. The interpretation of findings  
51  
52 300 from qualitative research may be affected by bias in providing patterns of meaning. Some BC  
53  
54 301 patients may be unable to share their true perceptions and they were restricted from criticizing their  
55  
56 302 healers. This study was only confined to a small geographic area of Ethiopia, and the  
57  
58 303 generalizability of the findings to other settings may be limited.

## 304 **Conclusions**

305 Although THs were unaware of the causes of BC, they were familiar with the basic signs and  
306 symptoms of the disease. BC patients referred themselves to the THs because they preferred  
307 traditional therapies to modern ones. In order to better satisfy the unmet needs of Ethiopian women  
308 with BC, due consideration should be given to traditional treatments.

## 309 **Abbreviations**

310 BC: Breast Cancer, THs: Traditional Healers, R: Respondent

## 311 **Ethics approval**

312 Ethical approval was obtained from the research and ethical review committee of Debre Berhan  
313 University (Ref. No: RCSVP/266/7-43174). Written informed consent was obtained from both  
314 groups of participants: BC patients and THs. All the information obtained from participants was  
315 kept confidential throughout the process of study, and the name of the participant was replaced by  
316 a code. Withdrawal from the study at any point if they wished was assured.

## 317 **Consent for publication**

318 Not applicable.

## 319 **Availability of data and materials**

320 The dataset(s) supporting the conclusions of this article is(are) included within the article.

## 321 **Funding**

322 This research work was supported by Debre Berhan University. The award/grant number is not  
323 applicable.

324 **Disclaimer:** The funders had no role in study design, data collection and analysis, preparation of  
325 the manuscript, decision to publish and where to publish.

## 326 **Competing interests**

1  
2  
3 327 The authors declare that they have no competing interests.  
4

5 328 **Authors' contributions**  
6

7  
8 329 AGM, BTG and MW conceived the study and conducted the interviews. AGM developed the  
9  
10 330 methodology and analyzed and interpreted the data. AGM and BTG wrote the main manuscript  
11  
12 331 text. All authors reviewed and approved the manuscript.  
13

14 332 **Acknowledgement**  
15

16 333 We would like to acknowledge Debre Berhan University for financial support. We are also grateful  
17  
18 334 to the study participants for their participation in this study.  
19  
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21 335 **References**  
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### Consent Form and Questionnaire

Dear,

I am ----- and currently working at Debre Berhan university. The aim of this study is assessing the experience of breast cancer patients on traditional treatment and healers' understanding of causes and clinical manifestations of breast cancer in North Shewa zone. Thus, this interview is prepared for this purpose to get appropriate information on the topic. The information that will be obtained using this interview will be used only for research purpose. Confidentiality and anonymity is fully assured, as your name is not required and only the research team will have access to the results.

It will not affect you in anyway, should you not take part in this study?

If yes continue to sign consent form      If No, stop here

I have been informed that the purpose of this study is assessing Experience of breast cancer patients on traditional treatment and healers' understanding of causes and clinical manifestations of breast cancer in North Shewa zone, Ethiopia. I have understood that participation in this study is entirely voluntarily. I have been told that my answer to the question will not be given to anyone else and no reports of this study identify me in any way. I understood that participation in this study does not involve risks. I understood that Alemayehu Gonie is a contact person if I have question about the study or about my right as a study participant.

Respondent's Signature \_\_\_\_\_ Date \_\_\_\_\_ Start interview.

Supervisor's name \_\_\_\_\_ signature \_\_\_\_\_

**Address of investigators:**    **Tell:** 0912379531    **e-mail:** [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)

**Instruction to the interviewer:** circle the number in front of the option based on the response

Sr.	Part I: Demographic characteristics of BC patients	Options
1.	Age in years	-----
2.	Marital status	1= Married 2= unmarried
3.	Religion	1. Muslim 2. Orthodox 3. Protestant
4.	Educational status	1= No Education 2. Primary 3. Secondary 4. College
5.	Occupational status	1. Housewife 2. Farmer 3. Merchant 4. Employed
6.	Residence	1=Urban 2= Rural
<b>2.</b>	<b>Part II: Experiences of breast cancer patients about traditional medicine</b>	
7.	How do you explain your breast cancer treatment?  Probe: Both traditional and modern treatment	
8.	How do you explain traditional healer and where did you heard about them?  Probe: How did you compare both treatments	
9.	Do you think that or believe traditional healers treat your cancer?  Probe: How?	
10.	How do you explain the changes you recognize after you take traditional medicine from healer?	
<b>3.</b>	<b>Part I: Demographic Characteristics of the healer</b>	
1.	Age	-----
2.	Sex of healer	1= Male 2= Female
3.	Marital status	1= Married 2= unmarried
4.	Religion	1. Muslim 2. Orthodox 3. Protestant
5.	Educational status	1. Housewife 2. Farmer 3. Merchant 4. employed

6.	Occupational status	1= No Education 3. Secondary	2. Primary 4. College
7.	THs' treatment practice (in years)		
<b>Part II: Healers' perception in relation to cancer, its cause, and treatment effectiveness</b>			
8.	How did you start traditional treatment?		
9.	What do you understand about BC, its cause,  Probe: risk factors		
10.	What are sign & symptoms of BC?  Probe: Others		
11.	How BC pts contact you? How much of them?  Probe: How did you confirm treatment previously?		
12.	After giving the treatment, do you follow the progress of healing?  <b>Probe:</b> How do you follow? How many improved? If improved, how do you confirm?		
13.	What are the treatment modalities you follow?  Probe: For how much day? Dose? Types?		
14.	Could you tell us, if you recognized side effects after you give the treatment?		

**Thank you for your participation!!!**

### Standards for Reporting Qualitative Research (SRQR)

No	Topic	Item
	<b>Title and abstract</b>	
S1	Title	Page 1, line 1-3
S2	Abstract	Page 3, line 18-39
	<b>Introduction</b>	
S3	Problem formulation	Page 4, line 67-75
S4	Purpose or research question	Page 5, line 76-86
	<b>Methods</b>	
S5	Qualitative approach	Page 5, line 94-100
S6	Researcher characteristics and reflexivity	N/A
S7	Context	Page 5, line 89-92
S8	Sampling strategy	Page 5, line 102-103
S9	Ethical issue pertaining to human subjects	Page 6, line 132-136
S10	Data collection methods	Page 5, line 107-112
S11	Data collection instruments	Page 5, line 109-110
S12	Unit of study	Page 6, line 124-127
S13	Data processing	Page 6, line 115-123
S14	Data analysis	Page 6, line 115-118
S15	Techniques to enhance trustworthiness	Page 6, line 119-123
	<b>Results/findings</b>	
S16	Synthesis and interpretation	Page 8, line 146-153
S17	Links to empirical data	Page 9,10, line 154-250
	<b>Discussion</b>	
S18	Integration with prior work, implication, transferability and contribution to the field	Page 12,13, line 251-296
S19	Limitation	Page 13, line 297-301
	<b>Others</b>	
S20	Conflict of interest	Page 15, line 319
S21	Funding	Page 14, line 325

# BMJ Open

## Experience of breast cancer patients on traditional treatment and healers' understanding of causes and manifestations of breast cancer in North Shewa zone, Ethiopia: a phenomenological study

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2022-063726.R2
Article Type:	Original research
Date Submitted by the Author:	11-Sep-2022
Complete List of Authors:	Mekonnen, Alemayehu; Debre Berhan University, School of Nursing and Midwifery Gebeyehu, Belete ; Debre Berhan University, Department of Chemistry, College of Natural and Computational Sciences Woldearegay, Mesfin; Debre Berhan University, Department of Biology, College of Natural and Computational Science
<b>Primary Subject Heading</b>:	Oncology
Secondary Subject Heading:	Public health, Qualitative research, Palliative care
Keywords:	PUBLIC HEALTH, Breast tumours < ONCOLOGY, Maternal medicine < OBSTETRICS, Cancer pain < ONCOLOGY, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

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3 1 **Experience of breast cancer patients on traditional treatment and**  
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5 2 **healers' understanding of causes and manifestations of breast cancer**  
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7 3 **in North Shewa zone, Ethiopia: a phenomenological study**  
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14 4 Alemayehu Goni Mekonnen<sup>1\*</sup> [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)

15 5 Belete Tewabe Gebeyehu<sup>2</sup> [beletetewabe@gmail.com](mailto:beletetewabe@gmail.com)

16 6 Mesfin Woldearegay<sup>3</sup> [mesfinwa@gmail.com](mailto:mesfinwa@gmail.com)  
17  
18  
19  
20  
21  
22  
23

24 8 **Authors' affiliation**

25  
26  
27 9 <sup>1</sup>School of Nursing and Midwifery, Asrat Woldeyes Health Science Campus, Debre Berhan  
28 University, Ethiopia.

29  
30 10 <sup>2</sup>Department of Chemistry, College of Natural and Computational Sciences, Debre Berhan  
31 University, Ethiopia.

32  
33 11 <sup>3</sup>Department of Biology, College of Natural and Computational Sciences, Debre Berhan  
34 University, Ethiopia.  
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43 15 **Correspondance to Alemayehu Goni Mekonnen**

44  
45 16 <sup>1\*</sup>School of Nursing and Midwifery, Asrat Woldeyes Health Science Campus, Debre Berhan  
46 University, Ethiopia. Email [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)  
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## 18 **Abstract**

19 **Objectives:** Despite a high number of traditional healers (THs) who treat cancer patients in  
20 Ethiopia, there is limited evidence that explored the lived experience of breast cancer (BC) patients  
21 about traditional treatment and healers' understanding of the causes and manifestations of BC.

22 **Design:** A phenomenological study design was employed.

23 **Setting:** This study was conducted in the North-Shewa zone of Ethiopia.

24 **Participants:** Eight in-depth interviews were conducted; four of which were with breast cancer  
25 patients and four with THs. Semi-structured interviewing techniques were used to collect data from  
26 the two groups of respondents. All interviews were audio-recorded. The recorded data were  
27 transcribed verbatim. Coding and marking were then performed to make the raw data sortable. The  
28 marked codes were then summarised and categorized into themes.

29 **Results:** In this study, the majority of THs were unaware of the main risk factors or causes of BC.  
30 They have not mentioned the lifestyle risk factors of BC such as smoking cigarettes, consuming  
31 alcohol, and eating habits. The most common clinical manifestations noted by THs were lumps at  
32 the breast, discharge from the nipples and weakness. All of the THs got their knowledge of BC  
33 treatment from their families and through experience. Regarding the lived experience of treatment,  
34 some BC patients perceived that traditional medicines were safer and more effective than modern  
35 treatments and they eventually referred themselves to the THs.

36 **Conclusions:** Although THs were unaware of the causes of BC, they were familiar with the basic  
37 signs and symptoms of the disease. BC patients referred themselves to the THs because they  
38 preferred traditional therapies to modern ones. In order to better satisfy the unmet needs of  
39 Ethiopian women with BC, due consideration should be given to traditional treatments.

## 40 **Strengths and limitations of this study**

- 41   ▪ The involvement of two groups of study participants (both breast cancer patients and their  
42    THs) is a major strength of this study, as person triangulation is the best method for generating  
43    valid data and more comprehensive findings.
- 44   ▪ This study may have certain limitation in gaining the genuine perceptions BC patents towards  
45    THs as both THs and BC patients were interviewed at the same time.
- 46   ▪ This study was only confined to a small geographic area of Ethiopia, and the generalizability  
47    of the findings to other settings may be limited.
- 48   ▪ Understanding the treatment experience of BC patients is critical for integrating traditional  
49    medicine into modern cancer care to better meet the needs of women with BC.

## 51 Introduction

52 Breast cancer (BC) is the leading cause of cancer-related morbidity and mortality among women  
53 in Ethiopia. It accounts for about 33% of new cases of cancer and 23% of all cancer deaths.<sup>1</sup> This  
54 figure is expected to be doubled by 2030 due to the increasing prevalence rate of established risks  
55 such as cigarette smoking, being overweight and physical inactivity as well as rising urbanization  
56 and the rapid growth of the Ethiopian population.<sup>2</sup> BC is linked to poor quality of life of women  
57 and significantly affects the quality of life of the families.<sup>3,4</sup> The treatment outcome of BC depends  
58 on the stages of cancer and various patient factors; for example, treating the disease at an early  
59 stage has better results than treating it at an advanced stage.<sup>5</sup>

60 The use of traditional medicine is common among cancer patients in Ethiopia.<sup>6</sup> Available studies  
61 reported that more than 52% of cancer patients have seen traditional healers (THs) for alternative  
62 treatments.<sup>6,7</sup> Particularly, a substantial proportion of women with BC commonly employed  
63 alternative treatments from THs before or after starting modern treatments like chemotherapy.<sup>8-10</sup>  
64 Patients perceived that traditional medicines were more likely to be safe, reduce the size of  
65 tumours, alleviate their clinical symptoms, and improve their quality of life.<sup>2</sup> Additionally, THs  
66 and community members gave hope to cancer patients that if they received treatment from THs,  
67 they could be cured.<sup>6,11</sup>

68 Ethiopians have a long history of receiving treatment from THs and THs have an important place  
69 to meet the healthcare needs of many rural populations and play a vital role in the treatment of  
70 cancer in Ethiopia.<sup>2,12</sup> As documented by various ethnobotanical studies carried out in various  
71 regions of Ethiopia, THs employed a variety of medicinal plants to treat all cancer-like  
72 symptoms.<sup>13,14</sup> Some cancer patients also believed that their disease is the wrath of God and should  
73 be treated with the help of spiritually-oriented healers.<sup>14</sup> They did not seek out modern therapies  
74 because they believed that spiritual solutions were more effective than modern medicine.<sup>5,14</sup> The  
75 THs also believed that they got the treatment skills from supernatural, experience, and family  
76 heritage.<sup>5</sup>

77 Despite a high number of traditional healers (THs) who treat cancer patients in Ethiopia, there is  
78 limited evidence that explored the lived experience of BC patients regarding traditional treatment  
79 and THs' understanding of the causes and manifestations, and the roles that THs played in the

1  
2  
3 80 treatment of BC. There is also scant research on the therapeutic techniques employed by THs in  
4  
5 81 Ethiopia. This study, therefore, aimed to explore lived experiences of BC patients on their  
6  
7 82 treatment and the THs' understanding of causes and clinical manifestations of BC in Ethiopia, a  
8  
9 83 country with high rates of BC patients who receive treatment from THs. Understanding the  
10  
11 84 experience of BC patients' treatment and the practice of THs have a paramount significance to  
12  
13 85 integrate traditional medicine into conventional cancer care to better meet the needs of Ethiopian  
14  
15 86 women with BC. On the other hand, exploring THs' level of BC knowledge is the first step in  
16  
17 87 enhancing their capacity to treat cancer patients and collaborate with THs to create novel  
18  
19 88 therapeutic approaches.

## 18 89 **Methods**

### 20 90 **Study setting**

21  
22  
23 91 This study was conducted from February to April 2022 in the North-Shewa zone, Amhara regional  
24  
25 92 state, Ethiopia. The zone has twenty-four administrative districts with an estimated population of  
26  
27 93 more than two million. There are more than six THs who have been treating various types of  
28  
29 94 diseases including cancer.

### 30 95 **Study design**

31  
32  
33 96 A phenomenological study design was employed to explore the lived experiences of BC patients  
34  
35 97 on their treatment and the THs' understanding of causes and clinical manifestations of BC. This  
36  
37 98 study design was chosen because phenomenology is the study of an individual's lived experiences  
38  
39 99 of a phenomenon, in this case, the lived experience of BC patients on traditional medicine and the  
40  
41 100 THs' perspective of BC, its cause and manifestations, and treatment modalities.<sup>15-17</sup> This study  
42  
43 101 was conducted as a baseline for a broader ongoing investigation of traditional BC treatment  
44  
45 102 through reversed pharmacology.

### 46 103 **Study population and recruitment**

47  
48  
49 104 A total of eight in-depth interviews were conducted; four of which were with breast cancer patients  
50  
51 105 and four with traditional healers. The BC patients are currently attending traditional medicinal  
52  
53 106 treatment from THs. Similarly, THs who treat women with BC were included in the study. Study  
54  
55 107 participants were recruited through purposeful sampling and the sample size was determined based  
56  
57 108 on information saturation.<sup>18,19</sup>

## 109 **Data collection procedure**

110 A semi-structured interviewing interview guide was used to collect data from the two groups of  
111 respondents: BC patients and THs. The interview guide consisted of socio-demographic data, and  
112 open-ended and probing questions (Supplementary file 1). The study participants were interviewed  
113 in a private room. The three investigators participated in the in-depth interviews. One investigator  
114 was the interviewer while the other two investigators took written notes. All interviews were also  
115 audio-recorded.

## 116 **Data processing and analysis**

117 Data were collected from two groups of study participants (i.e. BC patients and THs) as person  
118 triangulation is a useful technique to generate more comprehensive data [20]. In this analysis,  
119 thematic analysis were applied. Initially, the recorded data were transcribed verbatim. Each  
120 transcript was read thoroughly to gain relevant concepts (respondent's lived experience) for the  
121 analysis. AGM then performed line-by-line coding and marking to make the raw data sortable.  
122 Marked codes were examined for similarity and then summarized and sorted into subcategories.  
123 The subcategories then were assembled into themes. Under each theme, quotes that best described  
124 each theme and were expressed frequently by participants were chosen and presented in italics.

## 125 **Patient and public involvement**

126 BC patients and THs who resided in the study area were involved in the planning and  
127 implementation of this study. Leaders from the district cultural and tourism office were part of this  
128 study and they guide the study team to ensure that the study is conducted in a culturally acceptable  
129 manner. They also helped with the recruitment of study participants and the revision of data  
130 collection tools to make them more appropriate for the local context. Besides, these local leaders  
131 will also be involved in the dissemination of study findings in order to build public trust in the  
132 findings and make them more acceptable.

## 133 **Results**

### 134 **Sociodemographic characteristics of study participants**

135 All BC patients were in the age group of 35-44, while all THs were between the ages of 45-54  
136 years. Three BC patients were married and one participant divorced her relationship. Two THs

137 and BC patients had no formal education. All THs were male, married and rural residents. Two  
 138 THs had no formal education and two THs had completed primary education. All THs were  
 139 farmers and their years of practice ranged between 10 to 20 years (Table 1).

140 Table 1: Sociodemographic characteristics of study participants, April 2022.

Variables	Categories	Number of BC patients	Number of THs
Age in years	25-34	-	-
	35-44	4	1
	45-54	-	3
Sex	Male	-	4
	Female	4	-
Place of residency	Rural	4	
	Urban	-	
Marital status	Married	3	4
	Unmarried	-	-
	Divorced/widowed	1	-
Religion	Orthodox	2	2
	Muslim	2	2
Educational status	No education	2	2
	Primary	1	2
	Secondary	1	-
	College and above	-	-
Occupational status	Employed	-	-
	Housewife	3	-
	Farmer	1	4
	Other	-	
THs' treatment practice (in years)	5-9	-	-
	10-15	-	1
	16-20	-	3

## 141 **Themes**

142 Based on thematic analysis, the responses of the study participants are grouped into two categories:  
143 THs' understanding of BC and their treatment modalities and the lived experience of BC patients  
144 on treatments. Under the category of THs' understanding of BC and the treatment modalities, four  
145 themes have emerged from the data: THs' understanding of BC causes, clinical manifestations of  
146 BC, sources of knowledge of BC treatment, and the treatment modalities that THs employed.  
147 Within the treatment modalities theme, two subthemes have emerged later: drinking and skin  
148 application treatment modalities. The second category of the analysis was the lived experience of  
149 BC patients on treatments. Under this category, two themes have emerged: the lived experience of  
150 BC patients with modern treatments and the lived experience of BC patients with traditional  
151 medicine. All of the reported findings are taken inductively from participants' responses.

### 152 **Category one: THs' understanding of BC and the treatment modalities**

#### 153 **Theme one: THs' understanding of the causes of BC**

154 The majority of THs were unaware of the cause of breast cancer. They have not mentioned the  
155 lifestyle risk factors for breast cancer such as smoking cigarettes, consuming alcohol, and eating  
156 habits. Within this theme, two subthemes have emerged: genetic predisposition and infection.

#### 157 **Subtheme 1: BC is familial/hereditary**

158 Some THs have mentioned a hereditary predisposition for the cause of BC. A healer who was  
159 between the ages of 45-50 (R2) stated that:

160 *"... a breast cancer patient may have the diseases when her family has a history of*  
161 *cancer...."*

162 Another interviewee who was between the ages of 45-50 years (R4) also said that:

163 *"for example, if a woman has a family history of breast cancer, if any of her family members*  
164 *had cancer diseases previously, this may lead to breast cancer ....he also added that... breast*  
165 *cancer can be caused by eating habits.... The lifestyle of people nowadays is changed..."*

#### 166 **Subtheme 1: BC is caused by infection**

1  
2  
3 167 THs have painted breast infection as a cause of BC. A healer who was between the ages of 45-50  
4 168 (R2) stated that:

5  
6  
7 169 *"... Breast cancer patients may have had past breast infections...hince a breast cancer*  
8  
9 170 *can be caused by breast infection...."*

### 11 171 **Theme two: THs' understanding of clinical manifestations of BC**

12  
13  
14 172 THs mentioned a combination of two signs and symptoms of BC. The most common clinical  
15 173 manifestations noted by THs were lumps at the breast and discharge from the nipples. Weakness  
16 174 and arm swelling were also mentioned by THs. One interviewee mentioned the four stages of  
17 175 breast cancer and breast pain. A healer (who was in the age range of 45-50 years (R2)) stated that:

18  
19  
20  
21 176 *"... breast cancer patients initially have a pea-sized swelling at the breast, and then it*  
22 177 *grows to the size of an egg. breast cancer patients may have discharge from nipples..."*

23  
24  
25  
26 178 A healer who was in the age range of 45-50 years (R3) also reported weakness and arm swelling.

27  
28 179 *"women with breast cancer may have arm swelling, feel weakness and pain around*  
29 180 *shoulder ..."*

30  
31  
32  
33 181 Another interviewee (who was greater than 50 years (R1) said that:

34  
35 182 *"Firstly, breast cancer patients have a small swelling in a certain point on breast and then*  
36 183 *it progresses to stage one, two and four. If breast cancer reaches stage four, it may be*  
37 184 *difficult to treat the disease. Some of the patients commonly contacted me when their breast*  
38 185 *cancer was in its 3rd stage..."*

### 39 186 **Theme three: sources of knowledge about BC treatment**

40  
41  
42  
43 187 All THs that we interviewed got their knowledge of BC treatment from their families and through  
44 188 experience. There were no THs who got their knowledge from formal education. A healer who  
45 189 was between the ages of 45-50 (R2) stated that:

46  
47  
48  
49 190 *"... my grandfather treated skin diseases/lesions with herbs, and I was aware of some of*  
50 191 *the herbs that he used to treat the skin lesions. After he passed away, I tried using those*  
51 192 *herbs to treat skin disease and many patients had been healed from the disease ..."*

1  
2  
3 193 A second interviewee (R4) who was 45-50 years said that:

4  
5 194 *"... I got this knowledge through experience, and I used different herbs to treat the skin*  
6  
7 195 *lesions including breast cancer .... "*

8  
9  
10 196 **Theme four: treatment modalities that the traditional healers used**

11  
12 197 Within this theme, two subthemes have emerged later: drinking and skin application treatment  
13  
14 198 modalities.

15  
16 199 **Subtheme 1: drinking of herbs as a treatment modality**

17  
18  
19 200 Before initiating treatment, the healers check and confirm whether the patient had been treated and  
20  
21 201 diagnosed with breast cancer at the hospital. Once confirmation is made, the healers initiate  
22  
23 202 treatment and the patient is then instructed to combine the powdered herbs with one litter of water  
24  
25 203 and drink a cup of this mixture every day for 3-6 months depending on the stages of breast cancer.  
26  
27 204 The healer advises the patient to complete the course of treatment for a quicker recovery. As  
28  
29 205 quoted below, one healer (who was in the age range of 45-50 years (R3)) explained the technique  
30  
31 206 by which he treated his BC patients.

32 207 *"I start by checking whether women with breast cancer have received a medical diagnosis.*  
33  
34 208 *After confirmation, I begin the treatment.... some dried herbs are ground into a powder,*  
35  
36 209 *and then I give it to the customer. They then dissolve it in a liter of water and drink a cup*  
37  
38 210 *of this solution once a day. I did not include anything like honey or oil.... He added... I*  
39  
40 211 *have not experienced any side effects, it is safe, and everyone can drink it... "*

41  
42 212 As the healer stated below (who was in the age range of 45-50 years (R2)), he had successfully  
43  
44 213 treated two BC patients who were in the early stage of the disease. As claimed by the healer,  
45  
46 214 however, there are treatment failures when the patients are already in the third stage of BC.

47  
48 215 *"...I treat cancer using a drink made of powdered herbs. I was able to successfully treat a*  
49  
50 216 *woman with breast cancer who was between the ages of 40 and 45. Her breast cancer was*  
51  
52 217 *in its early stage and she is now healthy and living a regular life with her family".*

53  
54 218 **Subtheme 1: skin application as a treatment modality**

1  
2  
3 219 Skin application was also employed by THs to treat breast cancer. A healer who was between the  
4  
5 220 ages of 45-50 years (R4) reported that:

6  
7 221 *“.....If breast cancer patients have lesions on the skin's surface, I topically apply herbs that*  
8  
9 222 *have been powdered and dissolved in water to the affected breast.....”.*

## 10 11 223 **Category one: Lived experience of BC patients on treatments**

### 12 13 14 224 **Theme One: the lived experience of BC patients with modern treatments**

15  
16  
17 225 This theme has emerged from participants' lived experiences of modern treatment at healthcare  
18  
19 226 facilities. BC patients recalled the situations they faced during the diagnosis of the disease and the  
20  
21 227 ongoing treatment they received from hospitals. A breast cancer who was dissatisfied with modern  
22  
23 228 treatments and eventually referred herself to TH described her personal experience of modern  
24  
25 229 therapy. She (R2) said that :

26 230 *“I tried all modern treatments at the hospital, but I did not get any improvement of pain,*  
27  
28 231 *the symptoms are not reduced.... I looked for a traditional healer took the medicine from*  
29  
30 232 *him and followed the treatment for a month.... Relatively, I have now some improvement*  
31  
32 233 *in terms of pain and weakness...”.*

33  
34 234 One breast cancer patient, however, has a neutral perception of both modern and traditional  
35  
36 235 treatments and has used a combination of those treatments. One interviewee who was between the  
37  
38 236 ages of 45-50 years (R3) said that;

39  
40 237 *“I received a cancer treatment (chemo) from the Black Lion hospital and have completed*  
41  
42 238 *two cycles of treatment. I also went to the traditional healer by hoping that my pain would*  
43  
44 239 *be reduced because I have pain around my shoulder and neck. .... She added... still I am*  
45  
46 240 *using both treatments....”.*

### 47 48 241 **Theme two: the lived experience of BC patients in traditional medicine**

49  
50 242 In medical science, trust in treatments is enabling factor in promoting treatment compliance and  
51  
52 243 continuity of patient care. In this study, some breast cancer patients believe that traditional  
53  
54 244 medicines are safer and more effective than modern treatments. A woman who was between the  
55  
56 245 ages of 40-45 years old (R1) said that;

1  
2  
3 246 *"I had been treated at Kemisie hospital for one year, but the pain was not reduced... there*  
4 *was no improvement at all. Then, I tried to search for a traditional healer because I had*  
5 247 *heard that someone from Mekoy kebele could treat persons with cancer. I met him and took*  
6 248 *treatment for 6 months. Now, there is no pain and I am healed from the disease... I also*  
7 *gave birth and am able to breastfeed...".*

8 249  
9  
10 250  
11  
12 251 A woman who was in 40-45 years old (R4) said that:

13  
14 252 *"...I received treatment from the hospital, but I did not see any improvement. For me, the*  
15 *traditional healer was somewhat helpful. I am still taking traditional medicine....".*

## 16 253 17 18 254 **Discussions**

19  
20  
21 255 To the best of our knowledge, this is the first study that offered insight into the lived experiences  
22 256 of BC patients on traditional treatments and THs' understanding of the causes, clinical  
23 257 manifestations and treatment of BC in Ethiopia. In this study, two groups of study participants  
24 258 (both breast cancer patients and their THs) participated as person triangulation is the best method  
25 259 to generate valid data and more comprehensive findings.<sup>15,20</sup>

26  
27  
28  
29  
30 260 Under THs' responses, healers' understanding of BC causes, clinical manifestations of BC, sources  
31 261 of knowledge of BC treatment, and the treatment modalities that THs utilized were explored.  
32 262 Accordingly, the majority of THs were unaware of the cause and risk factors of BC. For example,  
33 263 THs have not mentioned the lifestyle risk factors of BC such as smoking cigarettes, consuming  
34 264 alcohol, and eating habits which are the known risks for the development of cancer including breast  
35 265 cancer.<sup>21</sup> Two THs have also mentioned genetic predisposition and infection, whereas one  
36 266 participant has not mentioned any cause of breast cancer. Evidence also has supported that familial  
37 267 breast gene mutations can cause the development of breast cancer.<sup>22</sup> Even though similar  
38 268 misconceptions have been reported by a related study<sup>10</sup>, there is no available evidence that breast  
39 269 cancer could be caused by breast infection.

40  
41  
42  
43  
44 270 Regarding THs' understanding of clinical manifestations of BC, some of THs mentioned a  
45 271 combination of two signs and symptoms of BC. The most common manifestations noted by THs  
46 272 were lumps at the breast and discharge from the nipples. One participant mentioned the four stages  
47 273 of BC. This indicates that THs are familiar with the basic signs and symptoms of BC, and if they  
48 274 are supported by scientific knowledge, they are able to treat patients professionally.<sup>23, 24</sup> All THs

1  
2  
3 275 that we interviewed got their knowledge of BC treatment from their families and through  
4 276 experience. There were no THs who learned treatment from formal education. The same was true  
5  
6 277 in Uganda, where herbalists learned about cancer treatment from their families and personal  
7  
8 278 experiences.<sup>25</sup>  
9

10 279 In this study, THs employed either drinking or skin application modalities to treat BC. Even though  
11  
12 280 all THs kept the type of herbs they used a secret, they all followed the same procedures to prepare  
13  
14 281 the herbal medicine. They prepared the herbs for drinking and skin application by first grinding  
15  
16 282 them. Once the THs confirmed the diagnosis of BC, they initiate treatment and the patient is then  
17  
18 283 instructed to mix the powdered herbs with water and drink a cup of this mixture every day for the  
19  
20 284 period that the healer suggests. Some THs also used skin applications of herbs that were dissolved  
21  
22 285 in water. The same therapeutic approaches were practised in Ghana, where THs placed herbs on  
23  
24 286 the breast in hopes that the lump would disappear.<sup>24</sup> This suggests the necessity of setting up a  
25  
26 287 forum to provide THs access to scientific knowledge and to improve their responsibility for  
27  
28 288 traditional treatment.

29 289 Under the lived experience of BC patients on treatments, the lived experience of BC patients on  
30  
31 290 traditional and modern treatments was explored. As a result, some BC patients believed that  
32  
33 291 traditional medicines were safer and more effective than modern treatments. They claimed that  
34  
35 292 they were dissatisfied with modern treatments and eventually referred themselves to THs.  
36  
37 293 However, one BC patient had a neutral perception in relation to modern and traditional medicine  
38  
39 294 and has used a combination of those treatments. In agreement with our study, previous studies  
40  
41 295 reported that BC patients sought out THs because traditional medicine gave them temporary  
42  
43 296 symptomatic pain relief from the disease.<sup>5,25,26</sup> The available studies also explained the reasons  
44  
45 297 that led BC patients to seek out traditional treatments.<sup>27,28</sup> Although BC patients in our study  
46  
47 298 perceived that traditional medicines were safe and effective, the available ethnobotanical studies  
48  
49 299 conducted in Ethiopia revealed few side effects.<sup>13,29</sup> Consequently, further toxicological research  
50  
51 300 should be taken into consideration to protect the community from the adverse side effects of  
52  
53 301 traditional medicine.

54 302 Despite its strengths, this study has some methodological limitations. This study may have certain  
55  
56 303 limitation in gaining the genuine perceptions BC patients towards THs as both THs and BC patients  
57  
58  
59  
60

304 were interviewed at the same time. This study was only confined to a small geographic area of  
305 Ethiopia, and the generalizability of the findings to other settings may be limited.

## 306 **Conclusions**

307 Although THs were unaware of the causes of BC, they were familiar with the basic signs and  
308 symptoms of the disease. BC patients referred themselves to the THs because they preferred  
309 traditional therapies to modern ones. In order to better satisfy the unmet needs of Ethiopian women  
310 with BC, due consideration should be given to traditional treatments.

## 311 **Abbreviations**

312 BC: Breast Cancer, THs: Traditional Healers, R: Respondent

## 313 **Ethics approval**

314 Ethical approval was obtained from the research and ethical review committee of Debre Berhan  
315 University (Ref. No: RCSVP/266/7-43174). Written informed consent was obtained from both  
316 groups of participants: BC patients and THs. All the information obtained from participants was  
317 kept confidential throughout the process of study, and the name of the participant was replaced by  
318 a code. Withdrawal from the study at any point if they wished was assured.

## 319 **Consent for publication**

320 Not applicable.

## 321 **Availability of data and materials**

322 The dataset(s) supporting the conclusions of this article is(are) included within the article.

## 323 **Funding**

324 This research work was supported by Debre Berhan University. The award/grant number is not  
325 applicable.

1  
2  
3 326 **Disclaimer:** The funders had no role in study design, data collection and analysis, preparation of  
4 327 the manuscript, decision to publish and where to publish.

### 7 328 **Competing interests**

9 329 The authors declare that they have no competing interests.

### 12 330 **Authors' contributions**

14 331 AGM, BTG and MW conceived the study and conducted the interviews. AGM developed the  
16 332 methodology and analyzed and interpreted the data. AGM and BTG wrote the main manuscript  
18 333 text. All authors reviewed and approved the manuscript.

### 21 334 **Acknowledgement**

23 335 We would like to acknowledge Debre Berhan University for financial support. We are also grateful  
25 336 to the study participants for their participation in this study.

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### Consent Form and Questionnaire

Dear,

I am ----- and currently working at Debre Berhan university. The aim of this study is assessing the experience of breast cancer patients on traditional treatment and healers' understanding of causes and clinical manifestations of breast cancer in North Shewa zone. Thus, this interview is prepared for this purpose to get appropriate information on the topic. The information that will be obtained using this interview will be used only for research purpose. Confidentiality and anonymity is fully assured, as your name is not required and only the research team will have access to the results.

It will not affect you in anyway, should you not take part in this study?

If yes continue to sign consent form      If No, stop here

I have been informed that the purpose of this study is assessing Experience of breast cancer patients on traditional treatment and healers' understanding of causes and clinical manifestations of breast cancer in North Shewa zone, Ethiopia. I have understood that participation in this study is entirely voluntarily. I have been told that my answer to the question will not be given to anyone else and no reports of this study identify me in any way. I understood that participation in this study does not involve risks. I understood that Alemayehu Gonie is a contact person if I have question about the study or about my right as a study participant.

Respondent's Signature \_\_\_\_\_ Date \_\_\_\_\_ Start interview.

Supervisor's name \_\_\_\_\_ signature \_\_\_\_\_

**Address of investigators:**    **Tell:** 0912379531    **e-mail:** [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)

**Instruction to the interviewer:** circle the number in front of the option based on the response

Sr.	Part I: Demographic characteristics of BC patients	Options
1.	Age in years	-----
2.	Marital status	1= Married 2= unmarried
3.	Religion	1. Muslim 2. Orthodox 3. Protestant
4.	Educational status	1= No Education 2. Primary 3. Secondary 4. College
5.	Occupational status	1. Housewife 2. Farmer 3. Merchant 4. Employed
6.	Residence	1=Urban 2= Rural
<b>2.</b>	<b>Part II: Experiences of breast cancer patients about traditional medicine</b>	
7.	How do you explain your breast cancer treatment?  Probe: Both traditional and modern treatment	
8.	How do you explain traditional healer and where did you heard about them?  Probe: How did you compare both treatments	
9.	Do you think that or believe traditional healers treat your cancer?  Probe: How?	
10.	How do you explain the changes you recognize after you take traditional medicine from healer?	
<b>3.</b>	<b>Part I: Demographic Characteristics of the healer</b>	
1.	Age	-----
2.	Sex of healer	1= Male 2= Female
3.	Marital status	1= Married 2= unmarried
4.	Religion	1. Muslim 2. Orthodox 3. Protestant
5.	Educational status	1. Housewife 2. Farmer 3. Merchant 4. employed

6.	Occupational status	1= No Education 3. Secondary	2. Primary 4. College
7.	THs' treatment practice (in years)		
<b>Part II: Healers' perception in relation to cancer, its cause, and treatment effectiveness</b>			
8.	How did you start traditional treatment?		
9.	What do you understand about BC, its cause,  Probe: risk factors		
10.	What are sign & symptoms of BC?  Probe: Others		
11.	How BC pts contact you? How much of them?  Probe: How did you confirm treatment previously?		
12.	After giving the treatment, do you follow the progress of healing?  <b>Probe:</b> How do you follow? How many improved? If improved, how do you confirm?		
13.	What are the treatment modalities you follow?  Probe: For how much day? Dose? Types?		
14.	Could you tell us, if you recognized side effects after you give the treatment?		

**Thank you for your participation!!!**

### Standards for Reporting Qualitative Research (SRQR)

No	Topic	Item
	<b>Title and abstract</b>	
S1	Title	Page 1, line 1-3
S2	Abstract	Page 3, line 18-39
	<b>Introduction</b>	
S3	Problem formulation	Page 4, line 67-75
S4	Purpose or research question	Page 5, line 76-86
	<b>Methods</b>	
S5	Qualitative approach	Page 5, line 94-100
S6	Researcher characteristics and reflexivity	N/A
S7	Context	Page 5, line 89-92
S8	Sampling strategy	Page 5, line 102-103
S9	Ethical issue pertaining to human subjects	Page 6, line 132-136
S10	Data collection methods	Page 5, line 107-112
S11	Data collection instruments	Page 5, line 109-110
S12	Unit of study	Page 6, line 124-127
S13	Data processing	Page 6, line 115-123
S14	Data analysis	Page 6, line 115-118
S15	Techniques to enhance trustworthiness	Page 6, line 119-123
	<b>Results/findings</b>	
S16	Synthesis and interpretation	Page 8, line 146-153
S17	Links to empirical data	Page 9,10, line 154-250
	<b>Discussion</b>	
S18	Integration with prior work, implication, transferability and contribution to the field	Page 12,13, line 251-296
S19	Limitation	Page 13, line 297-301
	<b>Others</b>	
S20	Conflict of interest	Page 15, line 319
S21	Funding	Page 14, line 325

# BMJ Open

## Experience of breast cancer patients on traditional treatment and healers' understanding of causes and manifestations of breast cancer in North Shewa zone, Ethiopia: a phenomenological study

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2022-063726.R3
Article Type:	Original research
Date Submitted by the Author:	08-Oct-2022
Complete List of Authors:	Mekonnen, Alemayehu; Debre Berhan University, School of Nursing and Midwifery Gebeyehu, Belete ; Debre Berhan University, Department of Chemistry, College of Natural and Computational Sciences Woldearegay, Mesfin; Debre Berhan University, Department of Biology, College of Natural and Computational Science
<b>Primary Subject Heading</b>:	Oncology
Secondary Subject Heading:	Public health, Qualitative research, Palliative care
Keywords:	PUBLIC HEALTH, Breast tumours < ONCOLOGY, Maternal medicine < OBSTETRICS, Cancer pain < ONCOLOGY, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

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3 1 **Experience of breast cancer patients on traditional treatment and**  
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5 2 **healers' understanding of causes and manifestations of breast cancer**  
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7 3 **in North Shewa zone, Ethiopia: a phenomenological study**  
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14 4 Alemayehu Goni Mekonnen<sup>1\*</sup> [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)

15 5 Belete Tewabe Gebeyehu<sup>2</sup> [beletetewabe@gmail.com](mailto:beletetewabe@gmail.com)

16 6 Mesfin Woldearegay<sup>3</sup> [mesfinwa@gmail.com](mailto:mesfinwa@gmail.com)  
17  
18  
19  
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22  
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24 8 **Authors' affiliation**

25  
26  
27 9 <sup>1</sup>School of Nursing and Midwifery, Asrat Woldeyes Health Science Campus, Debre Berhan  
28 University, Ethiopia.

29  
30 10 <sup>2</sup>Department of Chemistry, College of Natural and Computational Sciences, Debre Berhan  
31 University, Ethiopia.

32 11 <sup>3</sup>Department of Biology, College of Natural and Computational Sciences, Debre Berhan  
33 University, Ethiopia.  
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36  
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43 15 **Correspondance to Alemayehu Goni Mekonnen**

44  
45 16 <sup>1\*</sup>School of Nursing and Midwifery, Asrat Woldeyes Health Science Campus, Debre Berhan  
46 University, Ethiopia. Email [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)  
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## 18 **Abstract**

19 **Objectives:** Despite a high number of traditional healers (THs) who treat cancer patients in  
20 Ethiopia, there is limited evidence that explored the lived experience of breast cancer (BC) patients  
21 about traditional treatment and healers' understanding of the causes and manifestations of BC.

22 **Design:** A phenomenological study design was employed.

23 **Setting:** This study was conducted in the North-Shewa zone of Ethiopia.

24 **Participants:** Eight in-depth interviews were conducted; four of which were with breast cancer  
25 patients and four with THs. Semi-structured interviewing techniques were used to collect data from  
26 the two groups of respondents. All interviews were audio-recorded. The recorded data were  
27 transcribed verbatim. Coding and marking were then performed to make the raw data sortable. The  
28 marked codes were then summarized and categorized into themes.

29 **Results:** In this study, some of THs were unaware of the main risk factors or causes of BC. They  
30 did not mention the lifestyle risk factors of BC such as smoking cigarettes, consuming alcohol,  
31 and eating habits. The most common clinical manifestations noted by THs were lumps at the  
32 breast, discharge from the nipples and weakness. All of the THs got their knowledge of BC  
33 treatment from their families and through experience. Regarding the lived experience of treatment,  
34 some BC patients perceived that traditional medicines were safer and more effective than modern  
35 treatments and they eventually referred themselves to the THs.

36 **Conclusions:** Although THs were unaware of the causes of BC, they were familiar with basic  
37 signs and symptoms of the disease. BC patients referred themselves to the THs because they  
38 preferred traditional therapies to modern ones. In order to better satisfy the unmet needs of  
39 Ethiopian women with BC, due consideration should be given to traditional treatments.

## 40 **Strengths and limitations of this study**

- 41   ▪ The involvement of two groups of study participants (both breast cancer patients and their  
42       THs) is a major strength of this study, as person triangulation is the best method for generating  
43       valid data and more comprehensive findings.
- 44   ▪ It may be difficult to obtain genuine perceptions of BC patients toward THs, as both THs and  
45       BC patients were interviewed at the same time.
- 46   ▪ This study was only confined to a small geographic area of Ethiopia, and the generalizability  
47       of the findings to other settings may be limited.
- 48   ▪ Understanding the treatment experience of BC patients is critical for integrating traditional  
49       medicine into modern cancer care to better meet the needs of women with BC.

## 51 Introduction

52 Breast cancer (BC) is the leading cause of cancer-related morbidity and mortality among women  
53 in Ethiopia. It accounts for about 33% of new cases of cancer and 23% of all cancer deaths.<sup>1</sup> This  
54 figure is expected to be doubled by 2030 due to the increasing prevalence rate of established risks  
55 such as cigarette smoking, being overweight and physical inactivity as well as rising urbanization  
56 and the rapid growth of the Ethiopian population.<sup>2</sup> BC is linked to poor quality of life of women  
57 and significantly affects the quality of life of the families.<sup>3,4</sup> The treatment outcome of BC depends  
58 on the stages of cancer and various patient factors; for example, treating the disease at an early  
59 stage has better results than treating it at an advanced stage.<sup>5</sup>

60 The use of traditional medicine is common among cancer patients in Ethiopia.<sup>6</sup> Available studies  
61 reported that more than 52% of cancer patients have seen traditional healers (THs) for alternative  
62 treatments.<sup>6,7</sup> Particularly, substantial proportion of women with BC commonly employed  
63 alternative treatments from THs before or after starting modern treatments like chemotherapy.<sup>8-10</sup>  
64 Patients perceived that traditional medicines were more likely to be safe, reduce the size of  
65 tumours, alleviate their clinical symptoms, and improve their quality of life.<sup>2</sup> Additionally, THs  
66 and community members gave hope to cancer patients that if they received treatment from THs,  
67 they could be cured.<sup>6,11</sup>

68 Ethiopian have a long history of getting treatment from THs and THs also have an important role  
69 to meet the healthcare needs of many rural populations and play a vital role in the treatment of  
70 cancer.<sup>2,12</sup> As documented by various ethnobotanical studies carried out in various regions of  
71 Ethiopia, THs employed a variety of medicinal plants to treat all cancer-like symptoms.<sup>13,14</sup> Some  
72 cancer patients also believed that their disease is the wrath of God and should be treated with the  
73 help of spiritually-oriented healers.<sup>14</sup> They did not seek out modern therapies because they believed  
74 that spiritual solutions were more effective than modern medicine.<sup>5,14</sup> The THs also believed that  
75 they got the treatment skills from supernatural, experience, and family heritage.<sup>5</sup>

76 Despite a high number of traditional healers (THs) who treat cancer patients in Ethiopia, there is  
77 limited evidence that explored the lived experience of BC patients regarding traditional treatment  
78 and THs' understanding of the causes and manifestations, and the roles that THs played in the  
79 treatment of BC. There is also scant research on the therapeutic techniques employed by THs in

1  
2  
3 80 Ethiopia. This study, therefore, aimed to explore lived experiences of BC patients on their  
4 81 treatment and the THs' understanding of the causes and clinical manifestations of BC in Ethiopia,  
5 82 a country with high rates of BC patients who receive treatment from THs. Understanding the  
6 83 experience of BC patients' treatment and the practice of THs have a paramount significance to  
7 84 integrate traditional medicine into conventional cancer care to better meet the needs of Ethiopian  
8 85 women with BC. On the other hand, exploring THs' level of BC knowledge is the first step in  
9 86 enhancing their capacity to treat cancer patients and collaborate with THs to create novel  
10 87 therapeutic approaches.

## 16 88 **Methods**

### 18 89 **Study setting**

20  
21 90 This study was conducted from February to April 2022 in the North-Shewa zone, Amhara regional  
22 91 state, Ethiopia. The zone has twenty-four administrative districts with an estimated population of  
23 92 more than two million. There are more than six THs who have been treating various types of  
24 93 diseases including cancer.

### 28 94 **Study design**

29 95 A phenomenological study design was employed to explore the lived experiences of BC patients  
30 96 on their treatment and the THs' understanding of the causes and clinical manifestations of BC.  
31 97 This study design was chosen because phenomenology is the study of an individual's lived  
32 98 experiences of a phenomenon, in this case, the lived experience of BC patients on traditional  
33 99 medicine and the THs' perspective of BC, its cause and manifestations, and treatment  
34 100 modalities.<sup>15-17</sup> This study was conducted as a baseline for a broader ongoing investigation of  
35 101 traditional BC treatment through reversed pharmacology.

### 44 102 **Study population and recruitment**

45 103 A total of eight in-depth interviews were conducted; four of which were with breast cancer patients  
46 104 and four with traditional healers. The BC patients are currently attending traditional medicinal  
47 105 treatment from THs. Similarly, THs who had been treating women with BC were included in the  
48 106 study. All the study participants were recruited through purposeful sampling and the sample size  
49 107 was determined based on information saturation.<sup>18,19</sup>

## 108 **Data collection procedure**

109 A semi-structured interviewing guide was used to collect data from the two groups of respondents:  
110 BC patients and THs. The interview guide consisted of socio-demographic data, and open-ended  
111 and probing questions (Supplementary file 1). The study participants were interviewed in a private  
112 room. The three investigators participated in the in-depth interview. One of the investigator was  
113 assigned as the interviewer while the other two investigators took written notes. All interviews  
114 were also audio-recorded.

## 115 **Data processing and analysis**

116 Data were collected from two groups of study participants (i.e. BC patients and THs) as person  
117 triangulation is a useful technique to generate more comprehensive data [20]. In this analysis,  
118 thematic analysis was applied. Initially, the recorded data were transcribed verbatim. Each  
119 transcript was read thoroughly to gain relevant concepts (respondent's lived experience) for the  
120 analysis. AGM then performed line-by-line coding and marking to make the raw data sortable.  
121 Marked codes were examined for similarity and then summarized and sorted into subcategories.  
122 The subcategories then were assembled into themes. Under each theme, quotes that best described  
123 each theme and were expressed frequently by participants were chosen and presented in italics.

## 124 **Patient and public involvement**

125 BC patients and THs who resided in the study area were involved in the planning and  
126 implementation of this study. Leaders from the district cultural and tourism office were part of this  
127 study and they guide the study team to ensure that the study is conducted in a culturally acceptable  
128 manner. They also helped with the recruitment of study participants and the revision of data  
129 collection tools to make them more appropriate for the local context. Besides, these local leaders  
130 will also be involved in the dissemination of study findings in order to build public trust in the  
131 findings and make them more acceptable.

## 132 **Results**

### 133 **Sociodemographic characteristics of study participants**

134 All BC patients were in the age group of 35-44, while all THs were between the ages of 45-54  
135 years. Three BC patients were married and one participant divorced her relationship. Two THs

136 and BC patients had no formal education. All THs were male, married and rural residents. Two  
 137 THs had no formal education and two THs had completed primary education. All THs were  
 138 farmers and their years of practice ranged between 10 to 20 years (Table 1).

139 Table 1: Sociodemographic characteristics of study participants, April 2022.

Variables	Categories	Number of BC patients	Number of THs
Age in years	25-34	-	-
	35-44	4	1
	45-54	-	3
Sex	Male	-	4
	Female	4	-
Place of residency	Rural	4	
	Urban	-	
Marital status	Married	3	4
	Unmarried	-	-
	Divorced/widowed	1	-
Religion	Orthodox	2	2
	Muslim	2	2
Educational status	No education	2	2
	Primary	1	2
	Secondary	1	-
	College and above	-	-
Occupational status	Employed	-	-
	Housewife	3	-
	Farmer	1	4
	Other	-	
THs' treatment practice (in years)	5-9	-	-
	10-15	-	1
	16-20	-	3

## 140 Themes

141 Based on thematic analysis, the responses of the study participants are grouped into two categories:  
142 THs' understanding of BC and their treatment modalities and the lived experience of BC patients  
143 on treatments. Under the category of THs' understanding of BC and the treatment modalities, four  
144 themes have emerged from the data: THs' understanding of BC causes, clinical manifestations of  
145 BC, sources of knowledge of BC treatment, and the treatment modalities that THs employed.  
146 Within the treatment modalities theme, two subthemes have emerged later: drinking and skin  
147 application treatment modalities. The second category of the analysis was the lived experience of  
148 BC patients on treatments. Under this category, two themes have been emerged: the lived  
149 experience of BC patients with modern treatments and the lived experience of BC patients with  
150 traditional medicine. All of the reported findings are taken inductively from participants'  
151 responses.

### 152 Category one: THs' understanding of BC and the treatment modalities

#### 153 Theme one: THs' understanding of the causes of BC

154 Some of THs were unaware of the cause of breast cancer. They did not mention the lifestyle risk  
155 factors for breast cancer such as smoking cigarettes, consuming alcohol, and eating habits. Within  
156 this theme, two subthemes have been emerged: genetic predisposition and infection.

#### 157 Subtheme 1: BC is familial/hereditary

158 Some of THs have mentioned a hereditary predisposition for the cause of BC. A healer who was  
159 between in the ages of 45-50 (R2) stated that:

160 *"... a breast cancer patient may have the diseases when her family has a history of*  
161 *cancer...."*

162 Another interviewee who was between the ages of 45-50 years (R4) also said that:

163 *"for example, if a woman has a family history of breast cancer, if any of her family members*  
164 *had cancer diseases previously, this may lead to breast cancer ....he also added that... breast*  
165 *cancer can be caused by eating habits.... The lifestyle of people nowadays is changed..."*

1  
2  
3 **166 Subtheme 1: BC is caused by infection**  
4

5 167 THs have painted breast infection as a cause of BC. A healer who was between the ages of 45-50  
6  
7 168 (R2) stated that:

8  
9 169 *"... Breast cancer patients may have had past breast infections...hence a breast cancer*  
10  
11 170 *can be caused by breast infection...."*  
12

13  
14 171 **Theme two: THs' understanding of clinical manifestations of BC**  
15

16 172 THs mentioned a combination of two signs and symptoms of BC. The most common clinical  
17  
18 173 manifestations noted by THs were lumps at the breast and discharge from the nipples. Weakness  
19  
20 174 and arm swelling were also mentioned by THs. One interviewee mentioned the four stages of  
21  
22 175 breast cancer and breast pain. A healer (who was in the age range of 45-50 years (R2)) stated that:

23  
24 176 *"... breast cancer patients initially have a pea-sized swelling at the breast, and then it*  
25  
26 177 *grows to the size of an egg. breast cancer patients may have discharge from nipples..."*  
27

28 178 A healer who was in the age range of 45-50 years (R3) also reported weakness and arm swelling.

29  
30  
31 179 *"women with breast cancer may have arm swelling, feel weakness and pain around*  
32  
33 180 *shoulder ..."*  
34

35 181 Another interviewee (who was greater than 50 years (R1) said that:

36  
37  
38 182 *"Firstly, breast cancer patients have a small swelling at a certain point on the breast and*  
39  
40 183 *then it progresses to stages one, two and four. If breast cancer reaches stage four, it may*  
41  
42 184 *be difficult to treat the disease. Some of the patients commonly contacted me when their*  
43  
44 185 *breast cancer was in its 3rd stage..."*  
45

46 186 **Theme three: sources of knowledge about BC treatment**  
47

48 187 All THs that we interviewed got their knowledge of BC treatment from their families and through  
49  
50 188 experience. There were no THs who got their knowledge from formal education. A healer who  
51  
52 189 was between the ages of 45-50 (R2) stated that:  
53  
54  
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57

1  
2  
3 190 *"... my grandfather treated skin diseases/lesions with herbs, and I was aware of some of*  
4 191 *the herbs that he used to treat the skin lesions. After he passed away, I tried using those*  
5 192 *herbs to treat skin disease and many patients had been healed from the disease ..."*

8  
9 193 A second interviewee (R4) who was 45-50 years said that:

11 194 *"... I got this knowledge through experience, and I used different herbs to treat the skin*  
12 195 *lesions including breast cancer ...."*

#### 16 196 **Theme four: treatment modalities that the traditional healers used**

18 197 Within this theme, two subthemes have been emerged later: drinking and skin application  
19 198 treatment modalities.

##### 22 199 **Subtheme 1: drinking herbs as a treatment modality**

25 200 Before initiating treatment, the healers check and confirm whether the patient had been treated and  
26 201 diagnosed with breast cancer at the hospital. Once confirmation is made, the healers initiate  
27 202 treatment and the patient is then instructed to combine the powdered herbs with one liter of water  
28 203 and drink a cup of this mixture every day for 3-6 months depending on the stages of breast cancer.  
29 204 The healer advises the patient to complete the course of treatment for a quicker recovery. As  
30 205 quoted below, one healer (who was in the age range of 45-50 years (R3)) explained the technique  
31 206 by which he treated his BC patients.

38 207 *"I start by checking whether women with breast cancer have received a medical diagnosis.*  
39 208 *After confirmation, I begin the treatment.... some dried herbs are ground into a powder,*  
40 209 *and then I give it to the customer. They then dissolve it in a liter of water and drink a cup*  
41 210 *of this solution once a day. I did not include anything like honey or oil.... He added... I*  
42 211 *have not experienced any side effects, it is safe, and everyone can drink it..."*

47 212 As the healer stated below (who was in the age range of 45-50 years (R2)), he had successfully  
48 213 treated two BC patients who were in the early stage of the disease. As claimed by the healer,  
49 214 however, there are treatment failures when the patients are already in the third stage of BC.

1  
2  
3 215 *“...I treat cancer using a drink made of powdered herbs. I was able to successfully treat a*  
4 216 *woman with breast cancer who was between the ages of 40 and 45. Her breast cancer was*  
5 217 *in its early stage and she is now healthy and living a regular life with her family”.*

### 218 **Subtheme 1: skin application as a treatment modality**

219 Skin application was also employed by THs to treat breast cancer. A healer who was between the  
220 ages of 45-50 years (R4) reported that:

221 *“.....If breast cancer patients have lesions on the skin's surface, I topically apply herbs that*  
222 *have been powdered and dissolved in water to the affected breast.....”.*

### 223 **Category one: the lived experience of BC patients on treatments**

#### 224 **Theme One: the lived experience of BC patients with modern treatments**

225 This theme has emerged from participants' lived experiences of modern treatment at healthcare  
226 facilities. BC patients recalled the situations they faced during the diagnosis of the disease and the  
227 ongoing treatment they received from hospitals. A breast cancer who was dissatisfied with modern  
228 treatments and eventually referred herself to TH described her personal experience of modern  
229 therapy. She (R2) said:

230 *“I tried all modern treatments at the hospital, but I did not get any improvement of pain,*  
231 *the symptoms are not reduced.... I looked for a traditional healer took the medicine from*  
232 *him and followed the treatment for a month.... Relatively, I have now some improvement*  
233 *in terms of pain and weakness...”.*

234 One breast cancer patient, however, has a neutral perception of both modern and traditional  
235 treatments and has used a combination of those treatments. One interviewee who was between the  
236 ages of 45-50 years (R3) said that;

237 *“I received a cancer treatment (chemo) from the Black Lion hospital and have completed*  
238 *two cycles of treatment. I also went to the traditional healer by hoping that my pain would*  
239 *be reduced because I have pain around my shoulder and neck. .... She added... still I am*  
240 *using both treatments....”.*

## 241 **Theme two: the lived experience of BC patients in traditional medicine**

242 In medical science, trust in treatments is an enabling factor in promoting treatment compliance and  
243 continuity of patient care. In this study, however, some breast cancer patients believe that  
244 traditional medicines are safer and more effective than modern treatments, and they trusted  
245 traditional treatments. For example, a woman who was between the ages of 40-45 years old (R1)  
246 said;

247 *“I had been treated at Kemisie hospital for one year, but the pain was not reduced... there*  
248 *was no improvement at all. Then, I tried to search for a traditional healer because I had*  
249 *heard that someone from Mekoy kebele could treat persons with cancer. I met him and took*  
250 *treatment for 6 months. Now, there is no pain and I am healed from the disease... I also*  
251 *gave birth and am able to breastfeed...”.*

252 Another woman who was in 40-45 years old (R4) said that:

253 *“...I received treatment from the hospital, but I did not see any improvement. For me, the*  
254 *traditional healer was somewhat helpful. I am still taking traditional medicine....”.*

## 255 **Discussions**

256 To the best of our knowledge, this is the first study that offered insight into the lived experiences  
257 of BC patients on traditional treatments and THs' understanding of the causes, clinical  
258 manifestations and treatment of BC in Ethiopia. In this study, two groups of study participants  
259 (both breast cancer patients and their THs) participated as person triangulation is the best method  
260 to generate valid and reliable data, and more comprehensive findings.<sup>15,20</sup>

261 Under the THs' response, healers' understanding of BC causes, clinical manifestations of BC,  
262 sources of knowledge of BC treatment, and the treatment modalities that THs utilized were  
263 explored. Accordingly, some of THs were unaware of the cause and risk factors of BC. For  
264 example, THs did not mention the lifestyle risk factors of BC such as smoking cigarettes,  
265 consuming alcohol, and eating habits which are the known risks for the development of cancer  
266 including breast cancer.<sup>21</sup> Two of THs mentioned genetic predisposition and infection, whereas  
267 one participant did not mention any cause of breast cancer. The existing evidence also supported  
268 that familial breast gene mutations could cause the development of breast cancer.<sup>22</sup> Even though

1  
2  
3 269 similar misconceptions had been reported by a related study<sup>10</sup>, there was no available evidence  
4 270 that breast cancer could be caused by breast infection.

6  
7 271 Regarding THs' understanding of clinical manifestations of BC, some of THs mentioned a  
8  
9 272 combination of two signs and symptoms of BC. The most common manifestations noted by THs  
10  
11 273 were lumps at the breast and discharge from the nipples. One participant mentioned the four stages  
12  
13 274 of BC. This indicates that THs are familiar with the basic signs and symptoms of BC, and if they  
14  
15 275 are supported by scientific knowledge, they are able to treat patients professionally.<sup>23, 24</sup> All of the  
16  
17 276 THs got their knowledge of BC treatment from their families and through experience. There were  
18  
19 277 no THs who learned treatment from formal education. The same was true in Uganda, where  
20  
21 278 herbalists learned about cancer treatment from their families and personal experiences.<sup>25</sup>

22 279 In this study, THs employed either drinking or skin application modalities to treat women with  
23  
24 280 BC. All THs prepared the herbal medicine using the same methods and procedures, but they all  
25  
26 281 kept the type of herbs they used a secret. They prepared the herbs for drinking and skin application  
27  
28 282 by first grinding them. Once the THs confirmed the diagnosis of BC, they initiate treatment and  
29  
30 283 the patient is then instructed to mix the powdered herbs with water and drink a cup of this mixture  
31  
32 284 every day for the period that the healer suggests. Some of THs also used skin applications of herbs  
33  
34 285 that were dissolved in water. The same therapeutic approaches were practised in Ghana, where  
35  
36 286 THs placed herbs on the breast in hopes that the lump would disappear.<sup>24</sup> This suggests the  
37  
38 287 necessity of setting up a forum to provide THs access to scientific knowledge and to improve their  
39  
40 288 responsibility for traditional treatment.

41 289 Under the lived experience of BC patients on treatments, the lived experience of BC patients on  
42  
43 290 traditional and modern treatments was explored. As a result, some BC patients believed that  
44  
45 291 traditional medicines were safer and more effective than modern treatments. They claimed that  
46  
47 292 they were dissatisfied with modern treatments and eventually referred themselves to THs.  
48  
49 293 However, one BC patient had a neutral perception in relation to modern and traditional medicine  
50  
51 294 and currently utilize a combination of those treatments. In agreement with our study, previous  
52  
53 295 studies reported that BC patients sought out THs because traditional medicine gave them  
54  
55 296 temporary symptomatic pain relief from the disease.<sup>5,25,26</sup> The available studies also explained the  
56  
57 297 reasons that led BC patients to seek out traditional treatments.<sup>27,28</sup> Although BC patients in our  
58  
59 298 study perceived that traditional medicines were safe and effective, the available ethnobotanical

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3 299 studies conducted in Ethiopia revealed few side effects.<sup>13,29</sup> Consequently, further toxicological  
4 300 research should be taken into consideration to protect the community from the adverse side effects  
5  
6 301 of traditional medicine.

7  
8  
9 302 Despite its strengths, this study has some methodological limitations. This study may have certain  
10 303 limitations in gaining the genuine perceptions of BC patients towards THs as both THs and BC  
11  
12 304 patients were interviewed at the same time. This study was only confined to a small geographic  
13  
14 305 area of Ethiopia, and the generalizability of the findings to other settings may be limited.

## 16 306 **Conclusions**

17  
18  
19 307 Although THs were unaware of the causes of BC, they were familiar with basic signs and  
20  
21 308 symptoms of the disease. BC patients referred themselves to the THs because they preferred  
22  
23 309 traditional therapies to modern ones. In order to better satisfy the unmet needs of Ethiopian women  
24  
25 310 with BC, due consideration should be given to traditional treatments.

## 29 311 **Abbreviations**

30  
31  
32 312 BC: Breast Cancer, THs: Traditional Healers, R: Respondent

## 34 313 **Ethics approval**

35  
36  
37 314 Ethical approval was obtained from the research and ethical review committee of Debre Berhan  
38  
39 315 University (Ref. No: RCSVP/266/7-43174). Written informed consent was obtained from both  
40  
41 316 groups of participants: BC patients and THs. All the information obtained from participants was  
42  
43 317 kept confidential throughout the process of study, and the name of the participant was replaced by  
44  
45 318 a code. Withdrawal from the study at any point if they wished was assured.

## 46 319 **Consent for publication**

47  
48  
49 320 Not applicable.

## 51 321 **Availability of data and materials**

52  
53  
54 322 The dataset(s) supporting the conclusions of this article is(are) included within the article.

## 323 **Funding**

324 This research work was supported by Debre Berhan University. The award/grant number is not  
325 applicable.

326 **Disclaimer:** The funders had no role in study design, data collection and analysis, preparation of  
327 the manuscript, decision to publish and where to publish.

## 328 **Competing interests**

329 The authors declare that they have no competing interests.

## 330 **Authors' contributions**

331 AGM, BTG and MW conceived the study and conducted the interviews. AGM developed the  
332 methodology and analyzed and interpreted the data. AGM and BTG wrote the main manuscript  
333 text. All authors reviewed and approved the manuscript.

## 334 **Acknowledgement**

335 We would like to acknowledge Debre Berhan University for financial support. We are also grateful  
336 to the study participants for their participation in this study.

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### Consent Form and Questionnaire

Dear,

I am ----- and currently working at Debre Berhan university. The aim of this study is assessing the experience of breast cancer patients on traditional treatment and healers' understanding of causes and clinical manifestations of breast cancer in North Shewa zone. Thus, this interview is prepared for this purpose to get appropriate information on the topic. The information that will be obtained using this interview will be used only for research purpose. Confidentiality and anonymity is fully assured, as your name is not required and only the research team will have access to the results.

It will not affect you in anyway, should you not take part in this study?

If yes continue to sign consent form      If No, stop here

I have been informed that the purpose of this study is assessing Experience of breast cancer patients on traditional treatment and healers' understanding of causes and clinical manifestations of breast cancer in North Shewa zone, Ethiopia. I have understood that participation in this study is entirely voluntarily. I have been told that my answer to the question will not be given to anyone else and no reports of this study identify me in any way. I understood that participation in this study does not involve risks. I understood that Alemayehu Gonie is a contact person if I have question about the study or about my right as a study participant.

Respondent's Signature \_\_\_\_\_ Date \_\_\_\_\_ Start interview.

Supervisor's name \_\_\_\_\_ signature \_\_\_\_\_

**Address of investigators:**    **Tell:** 0912379531    **e-mail:** [alemayehugonie19@gmail.com](mailto:alemayehugonie19@gmail.com)

**Instruction to the interviewer:** circle the number in front of the option based on the response

Sr.	Part I: Demographic characteristics of BC patients	Options
1.	Age in years	-----
2.	Marital status	1= Married 2= unmarried
3.	Religion	1. Muslim 2. Orthodox 3. Protestant
4.	Educational status	1= No Education 2. Primary 3. Secondary 4. College
5.	Occupational status	1. Housewife 2. Farmer 3. Merchant 4. Employed
6.	Residence	1=Urban 2= Rural
<b>2.</b>	<b>Part II: Experiences of breast cancer patients about traditional medicine</b>	
7.	How do you explain your breast cancer treatment?  Probe: Both traditional and modern treatment	
8.	How do you explain traditional healer and where did you heard about them?  Probe: How did you compare both treatments	
9.	Do you think that or believe traditional healers treat your cancer?  Probe: How?	
10.	How do you explain the changes you recognize after you take traditional medicine from healer?	
<b>3.</b>	<b>Part I: Demographic Characteristics of the healer</b>	
1.	Age	-----
2.	Sex of healer	1= Male 2= Female
3.	Marital status	1= Married 2= unmarried
4.	Religion	1. Muslim 2. Orthodox 3. Protestant
5.	Educational status	1. Housewife 2. Farmer 3. Merchant 4. employed

6.	Occupational status	1= No Education 3. Secondary	2. Primary 4. College
7.	THs' treatment practice (in years)		
<b>Part II: Healers' perception in relation to cancer, its cause, and treatment effectiveness</b>			
8.	How did you start traditional treatment?		
9.	What do you understand about BC, its cause,  Probe: risk factors		
10.	What are sign & symptoms of BC?  Probe: Others		
11.	How BC pts contact you? How much of them?  Probe: How did you confirm treatment previously?		
12.	After giving the treatment, do you follow the progress of healing?  <b>Probe:</b> How do you follow? How many improved? If improved, how do you confirm?		
13.	What are the treatment modalities you follow?  Probe: For how much day? Dose? Types?		
14.	Could you tell us, if you recognized side effects after you give the treatment?		

**Thank you for your participation!!!**

### Standards for Reporting Qualitative Research (SRQR)

No	Topic	Item
	<b>Title and abstract</b>	
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S3	Problem formulation	Page 4, line 67-75
S4	Purpose or research question	Page 5, line 76-86
	<b>Methods</b>	
S5	Qualitative approach	Page 5, line 94-100
S6	Researcher characteristics and reflexivity	N/A
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S8	Sampling strategy	Page 5, line 102-103
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S14	Data analysis	Page 6, line 115-118
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	<b>Discussion</b>	
S18	Integration with prior work, implication, transferability and contribution to the field	Page 12,13, line 251-296
S19	Limitation	Page 13, line 297-301
	<b>Others</b>	
S20	Conflict of interest	Page 15, line 319
S21	Funding	Page 14, line 325