Original article

Knowledge, Attitudes and Practices involved in Harmful Health Behavior in Dembia District, northwest Ethiopia

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Abstract

Background: Traditional harmful health practices such as uvulectomy, tonsillectomy, female circumcision, etc. are widely practiced in Ethiopia. These malpractices are associated with risks like massive bleeding, infection, transmission of many diseases including HIV/AIDS.

Objective: To assess the knowledge, attitude and practice of the population of Dembia District towards traditional harmful health practices.

Methods: A cross-sectional study was conducted in Dembia district, northwest Ethiopia, in May 2001. Data were collected from 1181 households using a pre-tested questionnaire.

Results: Uvulectomy, milk teeth extraction, giving butter to a newborn baby as the first feed and cupping (venousection) were the most dominant malpractices reported by our respondents. Educational status and religion were found to be significantly associated with the attitude of respondents towards practicing the prevailing traditional malpractices of the study area ($P < .001$ for each factor).

Conclusion: An integrated health activity which includes the issue of traditional harmful health practice and its associated risks should be given due attention at grass roots level. The practice of the most serious traditional harmful health practices like female circumcision should be condemned. [[*Ethiop.J.Health. Dev.* 2002;16(2):199-207]

Introduction

According to the definition adopted by the World Health Organization (WHO) in 1978, Traditional Medicine is "The sum total of all the knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation whether verbally or in writing" (1).

Ethiopian traditional medical systems employ a variety of techniques such as surgery and inoculation, as well as remedies from herbs, minerals, animal products and thermal waters. It is reported that traditional medicine is the most important alternative health care system available to over 80% of the population of this country (2). Though traditional medicine is said to be the most commonly used health care system in Ethiopia, it is not completely free from harmful and fraudulent practices (2). Harmful health practices such as uvulectomy, tonsillectomy, female circumcision, milk teeth extraction, cosmetic tattooing and eyebrow incision are widely practiced with no or little attention to hygiene in Ethiopia (3,4). All of the above practices are associated with risks like massive bleeding, infection, transmission of HIV/AIDS and many other diseases. In particular, the issue of their possible role in HIV/AIDS transmission has been raised by many researchers and concerned bodies (3, 5,6).

In order to develop appropriate and effective preventive measures towards such harmful health practices, the extent of the problem should be investigated. Therefore, this study is aimed at assessing the knowledge, attitude and practice of the population of Dembia Woreda

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towards traditional harmful health practices (THHPs).

Dembia is one of the districts of North Gondar Administrative Zone, known for its flat land. This district covers an area of 1270 km^2 with a total population of about 263000 at the time of the survey. The population of the district is predominately Amhara, Orthodox Christianity being the main religion. The altitude of the district ranges between 1750 and 2100 meters above sea level. The District of Dembia lies close to Lake Tana (the largest lake in Ethiopia) and the majority of the population depends on subsistence farming. Its administrative centre Kola Diba, is only 35 km from the ancient city of Gondar. The plain of Dembia is well remembered for the devastating malaria epidemic of 1953 which killed about 7000 people (7).

Methods

A cross sectional study to assess the knowledge, attitude and practice of the population of Dembia District towards traditional harmful health practices was conducted in May 2001. The study population included all segments of the population. The District of Dembia consists of 4 urban and 40 rural localities (*kebeles)*. A random sample of 11 localities (two urban and nine rural *kebeles*) were included in the study. In this study, locality (*kebele*) is defined as the smallest administrative unit in urban or rural areas. From each selected urban and rural locality, a random sample of 100 to 120 households were taken and all the individuals residing in these households were studied.

The assumptions made for the sample size calculation were: a 95% confidence interval (two sided), a proportion (people getting health care from traditional medicine) of 80% (2) and a 2.5% margin of error. Twenty percent (20%) was added for non-response and other contingencies. This gave us a sample size of 984. With 20% non-response and other contingencies, a total sample size of 1181 was entertained.

Among others, the following important harmful health practices were included in the questionnaire: female circumcision, tonsillectomy, uvulectomy, milk teeth extraction and eyebrow incision. The selection of the above important THHPs was done mainly on the bases of the two focus group discussions (one in the town and the other in the rural village) and the key informant interviews undertaken prior to the development of our questionnaire. The usual socio-demographic characteristics were also included. Standardization of terms and concepts took place following the pre-test of the questionnaire.

A pre-test of the survey questionnaire was conducted in similar *kebeles* and amendments were made on the basis of the findings. Eleven individuals (selected from the same district) who completed grade 12 with some experience of data collection on related sample surveys undertook the actual data collection. Two professional health workers (an environmental health technician and a health officer) working in the district were assigned to supervise the data collection process and the overall activity was coordinated by the investigators. A three-day training that was suppurated by practical exercise was given to the data collectors and supervisors. The data collectors were instructed to interview the head of each households. In the absence of the household head, they were told to interview his/her spouse. If both were not available even after repeated visits, the oldest adult in the household available at the time of the survey was taken as a possible respondent. In situations when any of the above respondents of a household were not available, the next household was considered in place of the missing. As the data collection process continued, a cross-checking survey was carried out on 120 households (about 10% of the overall households) by the supervisors and coordinators in order to ensure the reliability of the collected data.

The responsible local authorities and the study households were informed of the study objectives. Written consent was obtained from the government officials and oral consent was also obtained from every individual who responded to our questionnaire.

Data were entered into the computer and analysis was done using the EPI-INFO versions 6 and 2000 software packages. Statistical tests such as Chi-square were used as appropriate. P-values less than or equal to 5% were considered significant.

Results

The names of the study localities with their total population (households) and the sample sizes are depicted in table 1. At the time of the survey, the majority of the people of Dembia were in the age groups 5 to 14 (31.6%, 82872 out-of 262586) and 15 to 44 (40.3%, 105927 out of 262586). The age composition of our study population was consistent with the source population. For example, the age groups 5 to 14 and 15 to 44 comprised of 30.4% and 39.6% of our study population respectively. Moreover, it was observed that the male population dominated the female population in the rural areas while the opposite was true in the urban centers and this sex composition was true in both the study and source populations.

A total of 1181 persons of which 42.5% were males responded to the questionnaire on knowledge, attitude and practice of traditional harmful health practices. The mean age of these study subjects was 33 years with a standard deviation of 10.2 years. The age group 25 to 34 years formed the largest proportion (40.8%) of the respondents. The socio-demographic characteristics of the study subjects are shown in Table 2.

The respondents of the study area knew a number of THHPs (Table 3). The top five harmful health practices reported by them were: uvulectomy (99.4%), milk teeth extraction (95.6%), giving butter to a newborn as the first feed (93.5%), blood letting through procedures called cupping and venesection (87.6%) and eyebrow incision (82%). Cupping and venesection are performed to extract "bad" blood from the body and all segments of the population are thought to benefit from such traditional malpractices.

The attitude of the study subjects towards the prevailing THHPs was also assessed. Of the respondents who had knowledge about uvulectomy, 1067 (90.9%) reported that the

Table 1: **The names of the eleven locialities, their total populations (households) and sample size studied, Dembia district, northwest Ethiopia, May 2001.**

	Total		Sample size	
Name of locality (kebele)	Number of HHs	Population	Number of HHs	Population
Abrjaha	1863	9043	120	582
Gebeba	1053	5381	100	528
Girarge	1154	5888	100	520
Narchecha	1336	6479	105	630
Abaw uram	1031	5166	100	524
Ghana Yohannes	1863	9415	120	660
Guramba	1047	4822	100	482
Meskele Kirstos	1051	5223	100	531
Jenda	1273	6342	100	496
Chuahit town	1876	7077	120	537
Kola Diba town (Kebele 02)	1475	5584	116	518
Total	15022	70420	1181	6008
Other kebleles (total)	39501	192166	-	-
G/total	54523	262586	-	-

HHs=households

NB. The minimum number of households was determined to be 100 to ensure the inclusion of sufficient number of study units from the relatively smaller localities. One the other hand, a maximum sample size of 120 households was taken from each of the big localities. The sample sizes from the intermediate lacalities were taken by proportional allocation to size.

practice should continue. Milk teeth extraction, giving butter to a newborn baby and blood letting (cupping and venesection) were among the many THHPs which were thought to be very important by the respondents. On the other hand, it was learned from this study that the practice of female circumcision is limited to only some areas and is supported by a small number of people. A few individuals from the Muslim community living in Kola Diba and Chuahit towns and the Kimant people of Ghana Yohannis were in favour of this malpractice. Female circumcision is not currently exercised among the Orthodox Christian Amhara of the district. This study revealed the fact that the practice of female circumcision had been stopped a long time ago among the Christian Amhara of the district. The knowledge and attitude of the study subjects towards the most prevalent THHPs in the district of Dembia is shown in Table 3.

There were reports from 295 (25%) households that at least one member of their families had undergone the practice of THHP of some kind during the year preceding this survey. Efforts were also made to investigate the individuals who underwent certain traditional harmful health practices. Of the total surveyed population of the district, 368 (6.1%) persons were reported to have had some kind of THHP. The types of malpractices exercised were: venesection and cupping (61%), uvulectomy (16.5%), eyebrow incision (8%), milk teeth extraction (7.3%) and others (7.2%). Of those who underwent such traditional malpractice during the year preceding this survey, 35 (9.5%) had developed permanent health problems like loss of vision, lameness, and impairment of

Table 2: **Socio-demographic characteristics of the respondents, Dembia district, northwest Ethiopia, May 2001.**

Characteristics	Frequency (n=1181)	Percent (%)
Age group (in years)		
15-24	214	18.1
25-34	482	40.8
35-44	323	27.4
45-64	149	12.6
65+	13	1.1
Sex		
Male	502	42.5
Female	679	57.5
Place of residence		
Town	236	20.0
Rural villages	945	80.0
Educational status		
Cant' read and write	719	60.9
Can read and write (no formal schooling)	223	18.9
Elementary school	132	11.2
High school	97	8.2
Above grade 12	10	0.8
Marital status		
Single	37	3.1
Married	968	82.0
Divorced	116	9.8
Widowed	60	5.1
Religion		
Orthodox Christian	1080	91.4
Muslim	101	8.6

Table 3: **Knowledge and attitude of the respondents towards the commonest THHPs, Dembia District, northwest Ethiopia, May 2001**

Type of THHP*	Knowledge (N=1181)			Attitude**		
				THHP should continue		THHP
	Yes	No	% yes	Number	%	Should not continue
Uvulectomy	1174	7	99.4	1067	90.9	107
Milk teeth extraction	1129	52	95.6	930	82.4	199
To give butter to a newborn baby as the first feed	1104	77	93.5	972	88.0	132
Venesection and cupping	1034	147	87.6	791	76.6	243
Eyebrow incision	968	213	82.0	710	73.3	258
Applying butter or cows dung on the umbilicus of a Newborn baby soon after the umbilical cord is cut	964	217	81.6	798	82.8	166
Tonsillectomy	916	265	77.6	555	60.6	361
To burn the body with hot iron or Burning stick (cautery)	429	752	36.3	205	47.8	224
Female circumcision	250	931	21.2	31	12.4	219

*=tradtional harmful health practice

**=refer to those respondents who had the knowledge

sensation. As shown in Table 4, age of individuals was observed to have some kind of association with the experience of THHPs (P< .001) while sex did not show such a statistically significant association (P= .21). The association between age and the experience of harmful health practices was non-linear.

Of the total respondents, 1008 (85.4%) replied that they had knowledge about AIDS and 911 (90.4%) of these individuals reported that the use of nonsterile materials exposes to HIV/AIDS infection. It was learned from this study that there were local injectors in five (including Kola Diba Town) of the eleven localities considered in this study. It was also reported that most of the local injectors use the same needle several times.

It was also of interest to investigate the impact of selected socio-demographic variables on the attitude of the respondents towards such traditional malpractices. The respondents were divided into two groups according to their attitudes towards the importance and future use of THHP. The first group consisted of respondents who favored the future use of at least one of the malpractices indicated in Table 3. The second group comprised of the respondents who did not support the future use of any of the malpractices that are prevalent in the district. In other terms, an outcome variable was developed with two possible values. This helped us to apply logistic regression in order to investigate the effect of a number of (selected) socio-demographic variables on the attitude of the respondents on the prevailing malpractices. However, it was appropriate to use the classical univariate methods for initial analyses. Accordingly, the socio-demographic variables considered in the univariate analyses were: age, sex, educational status, marital status, religion and place of residence of the respondents. The above analyses showed that, with the exception of marital status, age and sex, all other variables had significant associations with the attitudes of respondents regarding the future use of any of the traditional malpractices shown in Table 3 (P< .01 for each factor considered). In particular, the relationship between educational status and the use of malpractices in the future was very significant. As the level of education of respondents increased, the tendency towards not using the indicated traditional harmful health practices increased.

Table 4: **Age and sex distribution of the study population and individuals who underwent certain traditional harmful health practices in the last one year preceding the survey, Dembia District, Northwest Ethiopia, May 2001**

Variable	Study Population	Number of persons Who underwent THHP*	Percent (%)	P-value
Age group (in years)				
<1	194	41	21.1	
1-4	1255	56	4.5	
5-14	1829	58	3.2	<.001
15-44	2381	184	7.7	(χ^2 -test)
45-64	312	25	8.0	
65+	37	4	10.8	
Sex				
Male	2992	195	6.5	P=.21
Female	3016	173	5.7	(χ^2 -test)
Total	6008	368	6.1	

*= traditional harmful health practice

Finally, the multivariate logistic regression, which allowed us to relate the log odds of our binary outcome variable to a set of explanatory variables, was applied. This type of statistical analysis helps to take account of the effects of the possible confounders. As shown in Table 5, except for some minor changes, the findings obtained from the multivariate analysis (logistic regression) are compatible with the results from the univariate analysis. The only

difference observed was that place of residence fell short of statistical significance. Among the six explanatory variables included in the model, educational status and religion showed significant associations with attitude of respondents towards using the prevailing traditional malpractices of the study area. As indicated in this table, as age increases there is a declining tendency among the respondents in the attitude towards the future use of the malpractices. However, this association is not very strong (P=.0634). On the other hand, level of education which showed a very strong association in the univariate analysis, still had a very high association even after controlling the effect of confounders (P<.0001). The tendency towards the future use of malpractices was about four times higher among the Orthodox Christians than the Muslims of our study area.

Table 5: **Impact of selected socio-demographic characteristics on the attitude of the respondents towards traditional harmful health practices, Dembia district, northwest Ethiopia, May 2001.**

Variable	Coefficient (βl)	Standard Error of (βl)	Odds ratio (OR)	95% confidence iterval	P-value
Educational status	-1.0400	0.1193	0.353	(0.280, 0.447)	0.001
Religion	-1.4176	0.3601	0.242	(0.120, 0.491)	0.001
Age	-0.0259	0.0140	0.974	(0.948, 1.001)	0.06
Sex	0.4103	0.3039	1.507	(0.831, 2.735)	0.18
Place of residence	-0.0037	0.3331	0.996	(0.519, 1.914)	0.99
Marital status (M*)					
Married (MS2)	0.0316	0.6087	1.032	(0.313, 3.403)	0.96
Divorced (MS3)	0.8252	0.7950	2.282	(0.481, 10.841)	0.30
Widowed (MS4)	-0.5038	0.7868	0.604	90.129, 2.824)	0.52

* = MS1 shows the baseline population (i.e. respondents who were single)
NB The order (arrangement) of each group in each variable is the same as presented in Table 2.

Discussion

Except for minor differences, the age and sex distribution of our study (sample) population was more or less similar to the age and sex composition of the source (total) population of Dembia District as projected from the 1994 census of the area (8). Moreover, a well organized training, strict supervision, was followed during data collection to ensure the reliability of the collected data. Therefore, there is a strong feeling that our sample is representative of the population of Dembia District. It is true that the majority of the subjects (57.5%) interviewed were females. This was partly due to the fact that the household heads in the urban centers were mostly females who had no husbands. In addition to this, some of the males in the rural *kebeles* were out of their homes to prepare their farmland for the coming rainy season (June - August).

Uvulectomy, which is widely practiced in Ethiopia (3), is the most prevalent traditional malpractice reported by our respondents. Almost all individuals interviewed knew this THHP and the majority of them would like to practice it in the future. This finding is more or less in agreement with the result of a previous similar study conducted about 10 years ago (9). Milk teeth extraction, giving butter to a newborn baby as the first feed, blood letting through cupping and venesection, eyebrow incision and tonsillectomy are the other dominant malpractices prevailing in the District. These same malpractices were also reported in the Dabat District of North Gondar Administrative zone (10).

Applying butter or fresh cow dung on the baby's umbilicus, soon after the umbilical cord is cut is also a very common malpractice. Of the respondents who knew this THHP, about 83% (i.e., 798 out of 964) of the respondents would like to maintain and use it in the future. It was not possible to compare this finding with the results of other studies due to the lack of related reports. Most of the respondents who were in favour of this THHP reported that it was useful to heal the wound and to drop the remaining part of the cord. However, this malpractice exposes the newborn baby for

various cord infections including tetanus (11). It would have been more informative if the attitudes of the respondents towards the use of butter and cow dung had been given separately.

On the other hand, cautery is not very much known among the population of the study area and female circumcision is practiced only among the Muslim (in towns) and the Kimant minorities of the District. Ghana Yohannis is found at the periphery of the plain of Dembia and it is one of the few rural *kebeles* of the district where the Kimant People are living. Female circumcision is not currently practiced among the Orthodox Christian Amhara people living in the district and this was compatible with the finding obtained in a study conducted in the Dabat area (10).

As indicated in Table 4, an overall prevalence rate of 6.1% was obtained with respect to the experience of any of the malpractices during the year preceding this survey. In fact, 25% of the households reported that at least one of their family members had experienced one of the malpractices shown in Table 3. The reason for the use of the traditional therapeutic cupping and venesection was in most cases probably malaria or meningitis and this was observed at the time of the survey. Malaria is the number one health problem of the district (7, 12) and meningitis took the lives of many people in the same district at the time this cross-sectional survey. Blood letting methods like cupping and venesection are usually practiced in the study area for diseases which are characterized by fever. There were many malaria and meningitis victims at the Kola Diba Health Center at the time of the study.

Infants below one year and persons in the relatively older age groups were the prime victims of the malpractices that took place in our study area during the year preceding this cross-sectional survey. The non-linear significant association between age and practice of THHP obtained in this study greatly resembles the age-specific mortality patterns of the population of a developing country (13). The "bath-tub" curve that can be displayed as a result of the association between age and the practice of THHP is indicative of the contributing effect of THHP on the mortality experience of our people. THHPs like cupping and venesection which are accompanied by mass bleeding and various infections can lead the debilitated individual to death. On the other hand, as can be depicted in Table 4, sex of the individual did not show a statistically significant association with the practice of THHP. This suggests that both males and females of the study area were more or less equally exposed to the risk of traditional malpractices.

Assessment of the impact of selected socio-demographic variables revealed that level of education and religion were independently and significantly associated with the attitude of the respondents towards THHP. Both the univariate and multivariate (logistic regression) analyses showed that as the level of education attained by the respondent increased, there appeared a decline in the willingness to use THHPs in the future. This is true as the corresponding 'β' coefficient is negative and the odds ratio is very much less than one. Education is not only instrumental in creating educated and productive people, but also has a number of many other advantages including relieving people from the burden of THHPs as indicated elsewhere in this paper.

Although Muslims of our study area are in favour of the most serious forms of THHPs like female circumcision, they are generally far from practicing the majority of the malpractices prevailing in the District compared to the Orthodox Christians. Place of residence, which showed a significant association in the univariate analysis, fell short of statistical significance in the multivariate analysis. The fact that the urban dwellers are more educated than the rural population could be a possible explanation for the above finding of no significant association in the latter analysis. It was actually the level of education that had shown an impact on the attitudes of our respondents towards the future use of THHPs regardless of place where they are living.

In conclusion, the positive attitude of the population of Dembia towards THHPs (as confirmed by the majority of our respondents) coupled with the use of unsterilized tools calls for an appropriate measure. In particular, at this point in time when HIV/AIDS is spreading at an alarming speed in this country, the issue of THHP has to be addressed properly. This study has reminded us of the fact that there are still many people (23%, 270 out of 1181) who lack the appropriate knowledge regarding the transmission of the devastating disease, HIV/AIDS.

The possibility of under-reporting while enumerating individuals who underwent THHPs in the year preceding this survey cannot be ruled out. It is also equally important to realize that even if no member of the household used any of the THHPs during the year, it does not necessarily mean that this household is not in favour of such malpractices. The absence of such malpractices among households which supported the future use of THHPs could simply mean that there were no individuals (sick people) who needed the traditional harmful operation at the time of the survey. Because of this and other reasons like recall problems, we devoted the major analysis to the attitudes of our respondents towards THHPs in detail. Although female circumcision is very much restricted to some minority groups, the absence of specific data on the two severe forms of mutilation (female infibulation and clitoridectomy) could be taken as a weakness of this study (3, 6, 14). With these limitations taken into account, most of our findings were very relevant. Accordingly, the following recommendations are forwarded.

1. The campaign to eliminate illiteracy, which used to be in the past should restart and continue through informal schooling. Traditional harmful health practices and other important health problems should be incorporated into the informal schooling curricula.
2. The loosely organized committees responsible for the control of THHPs should be strengthened and play active roles in avoiding these harmful malpractices. Religious leaders should also be members of these committees as religion was found to be one of the important contributing factors of THHP in this study.
3. Restructured, continuous and sustainable health education programs addressing the issue of THHP and its associated problems should be administered at grass roots level. This could be integrated with other health activities. Moreover, this would be successful if information (education) relating to health is also transmitted over the radio on a continuous and programmed basis. This of course requires to make radios available at a relatively low price particularly for those people living in the non-accessible rural areas.
4. Some of the very serious traditional harmful health practices like female circumcision should be condemned (and banned if possible) by the concerned bodies.

Acknowledgements

First and foremost we would like to acknowledge all our respondents for consenting and participating in our study. We highly appreciate the cooperation of the officials of the District of Dembia for all the necessary arrangements. We are very grateful to the Research and Publications Office of the Gondar College of Medical sciences for its financial assistance. Finally, the authors would like to acknowledge Dr. Janet Jones for editing the manuscript.

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