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Household water practices, knowledge and attitudes in nine White Nile villages in Sudan

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Two hundred and seventy women in the White Nile area, south of Khartoum, were interviewed by students from Ahfad University for Women about household water practices. From each of the nine villages around thirty women were selected, who had an average household of seven persons. Only one village has tap water, four villages are mainly dependent on a pumped well and the other four villages mainly on a well without pump. Women and children are mainly responsible for the transportation of water, which takes them between half an hour to more than two hours daily. The perceived quality of the water is related to the watersource in a village. Although it is found that the knowledge of women regarding the effects of water on human health is limited, it is also found that nearly 90% of them protect their stored water carefully. Some degree of schooling influences the knowledge about waterbound diseases and the willingness to improve the waterquality positively.

قام فريق طالبات كلية الاحفاد الجامعية للبنات باجراء مسح فى مجال الاستعمال المختلفة للماء فى المنزل تضمن البحث توجيه الاسئلة الى ٢٧٠ أمرأة فى تسع قرى فى النيل الابيض جنوب الخرطوم بمعدل ثلاثون امرأة من كل قرية من اسر تتكون من سبع اشخاص .

من التسع قرى وجدت قرية واحدة فقط تستعمل الماء من الماسورة واربع قرى تستجلب الماء من الابار بواسطة طلمبة اما الاربع قرى الاخرى فتستعمل الماء من الآبار بدون الاستعانة بطلمبة . جلب الماء يعتمد على النساء والاطفال وهذه العملية تستهلك مابين نصف الساعة الى الساعتين يوميا .

رغم جهل النساء فى هذه القرى بالاضرار التى تنتج عن تلوث الماء الا أن البحث اثبت أن ٩٠ ٪ من هؤلاء يستعملن موانع لحماية المياه التى يقومون بجلبها . المعلومات التى لديهم بالامراض التى تنتج عن تلوث الماء صادره من المتعلمين بالقرية وهؤلاء يسعون بشدة لتحسين مستوى تنقية المياه فى المنازل .

Introduction

This paper describes household water practices, knowledge about water and attitudes toward use of water as reported by samples of married women from nine villages in the White Nile province of Sudan. Numbers of women interviewed in each village were: Dar Alasud, 28; Al Hibika, 33; Al Gaboob, 33; Omarda, 30; Abudeesh, 30; El Hineesh, 33; Omshaba, 30; Abygneem, 35; and Mehrib, 18; resulting in a total of 270. Interviews were conducted during December, 1985 by third-year students from the School of Family Science and the School of Psychology and Preschool Education, Ahfad University for Women, as part of the University's annual Rural Extension field trip. Some views of village leaders regarding improving water supplies are also presented.

Characteristics of the samples

The nine samples were relatively homogenous with respect to seven background variables. The mean size of households ranged from 5.2 to 7.4 with an overall mean of 7.0. Medians were almost identical with the means. Ages of spouses did not vary greatly by village. Overall, about 35 % of the husbands were 39 years of age or younger; 27 % were 40-49; 18 % were 50-59; and 20 % were 60 or older. Wives averaged about 10 years younger than their husbands: 36 % of the wives were 29 or younger; 28 % were 30-39; 24 % were 40-49; 8 % were 50-59; and 4 % were 60 or older. A majority of both husbands and wives had no schooling, 67 % and 87 %, respectively. Larger percentages of husbands (26 %) than wives (11 %) had attended primary school or beyond. The size of homes was measured by the number of rooms. Means ranged from 1.9 to 3.2; the overall mean was 2.6. Medians were about the same as the means. Most homes, from 72 % to 100 % were made of mud brick: the overall percentage was 93 %, while most of the remaining houses were made of fired brick.

In terms of the foregoing characteristics, the samples resembled the known parameters for villages in the northern part of the White Nile province.

Results

The main findings of the survey are summarized next. More detailed data for each village are available from the School of Family Science, Ahfad University for Women.

Access to water

Sources of water differed among the villages. In Al Gaboob, 94 % of the respondents reported having a water tap in their house, while the other 6 % reported using a community tap. The next most convenient and efficient source of water was access to a community well with a pump. This was reported by 71 % of the respondents in Dar Alasud, 67 % of those in El Hineesh; 66 % of those in Al Hibika; and 55 % of the respondents in Omshaba. In another four villages, water was obtained from wells without pumps: percentages for this form of access were 100 % for Abudeesh, and Abygneem, 94 % for Mehrib, and 93 % for Omarda.

Source of water affected certain factors associated with its use. Respondents in Al Gaboob, the village with taps inside almost all houses, spent the least time getting water: 45 % reported spending less than one-half hour per day on this task. In the other villages water had to be brought to homes by some way more time was required to obtain water. In most cases, wives and children carried the water (83 %). Other means of transport included use of servants, animals and vehicles (17 %). Only small percentages of respondents in these eight villages reported spending a half-hour or less getting water. Most responses ranged from at least one-half hour to more than two hours.

Regardless of source of water, most respondents reported having enough water for their needs during both winter and summer. For winter, percentages varied between 93 % and 100 %, with an overall figure of 96 %. percentages were lower for summer, ranging from 46 % to 90 % with an overall percentage of 72 %. Low percentages for Omarda and Abudeesh, 53 % and 46 %, respectively, brought the overall percentage for summer down: the other percentages for having sufficient water during summer ranged from 64 % for Dar Alasud to 73 % to 90 % for the other villages.

Perceived qualities of water

Respondents were asked about their perceptions of the quality of the water they used. Qualities were rated for color (clear, a little dirty, dirty), odor (none, a little, a lot), and taste (no taste, slight, strong taste). Indexes were derived by adding the percentages for being clear and having no odor or taste. Scores could range up to 300. Scores and ranks for the responses, aggregated by villages. are shown in Table 1

Overall, water quality was rated highest in terms of odor, with 88 % of all respondents saying their water had no odor; color came next with 80 % indicating their water was clear; followed closely by taste, with 78 % saying their water had no taste.

In addition, respondents were asked if the color, odor or taste of their water bothered them (responses were no, a little, a lot). Indexes, based on the sum of percentages for no or a little, are also shown in Table 1, along with their rank order for the nine villages.

Overall, respondents were least bothered by the color and odor of the water they used. 92 % said that neither the color or odor bothered them. Taste was related next least objectional, with 87 % saying the taste did not bother them much.

Storage and care of water

Interviewers also observed and recorded how water was stored and cared for in the homes. Zeers were most frequently used to store water, reported for 90 % of all the homes. Other methods included use of jerrycans, metal and plastic containers.

Overall, water was protected from contamination: Interviewers reported that 91 % of all containers were covered 89 % were rated as clean inside, and 88 % were protected from animals. Observations in two villages, Abudeesh and El Hineesh, however, deviated from the otherwise hygienic pattern just described. Pecentages for containers being covered, clean and protected were 74 %, 67 % and 78 %, respectively for Abudeesh, and 76 %, 72 % and 53 %, respectively, for El Hineesh.

Table 1. Indexes and their rank order based on percentages for perceptions of and reactions to the water used by villages

Indexes	Dar Alasud	Al Hibika	Al Gaboob	Omarda	Abu deesh	El Hineesh	Omshaba	Abygneem	Mehrib
Quality (a)	278	294	282	170	187	264	277	280	111
Rank	4	1	2	8	7	6	5	3	9
Response (b)	296	282	228	253	300	271	300	254	239
Rank	3	4	9	7	1.5	5	1.5	6	8

(a) Based on the sum of percentages for clear (color), no odor and no taste.

(b) Based on the sum of percentages for not being bothered at all or only a little with regard to the color, odor and taste of the wate

Household water practices, knowledge and attitudes in nine White Nile villages

Knowledge and attitudes regarding water.

The women respondents were asked: "Do you think water could cause illness among members of your family?" For eight villages, the percentage responding yes ranged from 10 to 25%. For Abudeesh, the percentage was considerably higher (40%). The corresponding overall percentage was 21. When asked if anyone had told them that water could cause illness, percentages for yes were between 0 and 38% with an overall percentage of 18%. Not surprising, when asked if any member of the family had become ill because of drinking water, only 6% of respondents said yes.

Few women did anything to make water used for drinking or cooking cleaner or clearer. Percentages across villages ranged from 7% to 57%: the corresponding overall percentage was 26%.

A majority, however, agreed that if they had the time and money they would take steps to improve the quality of water they use. percentages for such action ranged from 40% to 94%, with 68% of all respondents agreeing they would do so. Also, 55% of all women said they would like authorities at the village or local council level to take action to improve the quality of water in the village. These percentages ranged from 21% to 90% for the various villages.

Effects of age and schooling on knowledge and attitudes.

In addition to the preceding univariate analysis, two sets of relationships were examined. Age and schooling, taken as independent variables, were tested for association with responses to the following four items:

1. Whether respondents believed water could cause illness.
2. Whether respondents did anything to improve the quality of the water they used.
3. Whether in the future the respondents might do something to improve the quality of water they used.
4. Whether the respondents would like local authorities to take action to improve the quality of water available in the village.

Responses to all items were yes or no. Analysis were based on the simple aggregation of responses for respondents from the nine villages.

Responses to the four items by age of the women are shown in Table 2.

Age appeared to have little effect on responses to the four items. For three items, variations in percentages for affirmative responses were slight and inconsistent from item to item. A consistent negative relationship was observed between age and doing something to improve the quality of water used. Over twice as many of the women of 29 years of age or less gave affirmative responses to this item as compared with women of 50 or older (17%).

Table 2. Percentages for knowledge and attitudes toward care of water by age of respondents (percentages for affirmative responses)

Items	Age				
	29 or younger	30-39	40-49	50 or older	Total
Believe water can cause illness	26	18	22	22	121
Do anything to improve water quality	39	31	22	17	130
In future, do anything to improve water quality	69	69	73	65	170
Like authorities to improve water quality	52	62	60	52	157
N	(79)	(66)	(45)	(24)	(214)

Because most women had no schooling, a simple dichotomy was used for this variable: no schooling versus having at least some primary schooling. Table 3 shows the association of schooling with responses to the four items.

Table 3. Percentages for knowledge and attitudes toward care of water by level of schooling of respondents (percentages for affirmative responses only)

Items	Schooling		
	None	Some	Total
Believe water can cause illness	20	23	21
Do anything to improve water quality	31	36	31
In future, do anything to improve water quality	69	82	70
Like authorities to improve water quality	56	68	57
N	(185)	(22)	(207)

Schooling was directly associated with affirmative responses for all four items. For each item a larger percentage of women with some schooling gave affirmative replies. Differences in percentages ranged from 3% to 13% the mean differencs was 8%.

Leader's Willingness to improve water supply

In each village students also interviewed El Shiekh and five or six other leaders to obtain their views regarding improving the water supply for the village. The following five questions were asked.

If we dig a well for you with a pump will you be responsible for:

1. Forming a women's committee to direct the work and organize the monetary funds?
2. If the pump stops working will you help repair it?
3. If the well goes dry will you be able to dig it further?
4. Will you plant trees around the well and protect it from animals?
5. Will you collect money to dig a new well?

The 57 responses were first analyzed separately for each village; however, because the overwhelming response was "yes" regardless of village, responses were aggregated across the villages. Percentages for affirmative responses to the five questions ranged from 94% (question 1) to 98% (question 5). As a way of summarizing responses, the number of affirmative responses made by each respondent were added to produce an index ranging from 0 (no affirmative responses) to 5 (all affirmative responses). For the 57 respondents, the percentage distribution was: 5 (77%), 4 (12%), 3 (2%) and 0 (9%).

These data indicate that village leaders would respond positively to efforts to help improve the water supply for their village.

Discussion

The main results of this study, based on samples of mainly illiterate women from the White Nile region of Sudan, form an interesting pattern. While most of the women lacked knowledge about the effects of water on human health, most of them followed hygienic practices with respect to the storage of water. Only 21% of all women believed water could cause illness, yet close to 90% kept their water containers clean, covered and protected from animals. Still, only about one-fourth of the women did anything to improve the quality of the water they used. This low percentage, however, may be explained by their perception of the quality of the water they used. Most said their water was clear, odorless and tasteless and relatively few were bothered by these water qualities. Yet when asked if they might do something in the future to improve the quality of water they used, 68% said they would and 55% indicated they would like local authorities to take action to improve the quality of water available in their village.

Schooling was more closely associated with responses to four items about knowledde and attitudes about water usage and care. Only one of four tests involving age produced a clear pattern of association. For this item, doing something to improve the quality of water, affirmative responses were inversely associated with age. Otherwise, only slight and inconsistent patterns in responses were found with respect to age. Affirmative responses to all four items were directly related to schooling. Even some schooling, which for most women was a few years of primary school, was reflected in more hygienic practices and attitudes regarding the water used for household purposes.

Finally, almost all leaders in the villages indicated they would assist in improving water supplies for their village.

The process of getting married: continuity and change in Omdurman, Sudan

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Two questions are addressed in this paper. (1) What has been the degree of continuity in traditional values and norms related to selection of marriage partners? (2) What factors tend to maintain marriages even though spouses generally know little about one another before marriage? Data were derived from written sources, mainly accounts of earlier life, folklore, and songs; from, the author's experience in growing up in Omdurman; and from a survey of 240 married couples living in Omdurman in 976-1977. In practice, considerable continuity was found. However, some change was observed as well, particularly in recognizing the importance of personal interests in the selection of marriage partners and in allowing young persons a greater role in deciding whom they will marry. Factors supporting stability in marriage are also discussed.

ناقشت هذه الدراسة سؤالين هما : –

١ – كيف كانت درجة الاحتفاظ بالقيم والمعتقدات التقليدية فى اختيار شريك الحياة .

٢ – ماهى العوامل التى تؤدى الى استمرار الزواج على الرغم من أن الطرفين ليست لديهم المعرفة الكافية ببعضهم البعض . جمعت المعلومات الاحصائية من مصادر مكتوبة عن الفلكلور والاغانى ومن تجربة الكاتبة خلال نشأتها فى مدينة امدرمان وايضا من بحث ميدانى لـ ٢٤٠ زوج وزوجة يعيشون فى امدرمان فى عامى ١٩٧٦ و ١٩٧٧ . وقد وجد أن هناك استمرارية فى الحياة الزوجية وايضاً لوحظت بعض التغيرات خاصة فى تقدير اهمية الاهتمام الشخصى فى اختيار الطرف الاخر وفى السماح لصغار السن بحرية الاختيار وقد نوقشت العوامل التى تدعم استمرار وترسيخ الحياة الزوجية .

Introduction

This paper addresses two questions. (1) What has been the degree of continuity in traditional values and norms regarding selection of marriage patterns? (2) what factors tend to maintain marriages even though spouses generally know little about each other prior to marriage?

Sources of data

The description of traditional values and norms concerning marriage was derived from written sources, oral traditions, stories, songs and the author's experience in growing up in Omdurman, Sudan. The following description refers mainly to the values and norms of Arab-Riverian tribes who constitute the dominant ethnic group of the area.

Data on the continuity of these traditions were collected as part of survey conducted in Omdurman in 1976-1977.