

Religious Differences in the Quality of Life, Eating Pattern and Nutrient Intake among Selected Occupational Group in Rural Bangladesh

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Abstract

Qualities of life and food intake behaviour among a selected group of rural primary school teachers were investigated. The cross-sectional study aimed to relate religion on the individual's quality of life and his meal pattern. A total of 74 rural primary school teachers were selected from among the two religious groups (Muslim and Hindu) through two stage sampling procedure. Mean score obtained for quality of life by the Muslim teachers was 392.05 ± 23.38 and for the Hindu teachers it was 379.24 ± 26.60 , and the difference between the groups was significant ($P=0.031$). Significantly lower intake of calorie and protein by the Hindu teachers compared to the Muslim teachers ($P<0.05$) was recorded. Habitual pattern of food intake shows no marked difference between the groups. The Muslims were found to have intakes of meat, fish and eggs at higher frequencies and Hindus were found to have higher frequency for intake of vegetables. Religion plays a significant role influencing the quality of life but not the meal pattern.

Key words: Religion, quality of life, dietary pattern

Introduction

The concept of quality of life means the well-being of people. Quality of life is a multi-dimensional phenomenon reflecting the interaction of personal and environmental factors. It is indeed the degree to which a person enjoys the important possibilities of his or her life. World Health Organization defined quality of life as the individual's perception of his or her position in life, within the cultural context and value system he or she lives in, and in relation to his or her goals, expectations, parameters and social relations. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships and their relationship to salient features of their environment¹. A conventional view is that there is a direct positive relationship between quality of life and quality of the person. It often represents the humanistic and psychological values of life as opposed to the technical, materialistic and economic aspects. A higher quality of life improves the quality of human in a mutually self-reinforcing manner. Quality of life is not an antonym of quantity of life; rather it refers only to 'good' or 'satisfactory' character of people's life²⁻⁵. Social disadvantage adversely affects quality of the person and quality of life.

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The inhabitants of Bangladesh are homogenous in ethnic character (Bangali) but differ in their religious belief. Eighty-eight percent of the populations are Muslim by faith and eleven percent is Hindu⁶. An intra-cultural difference in food use in a country is influenced by multiple factors including economic, social, religious, ecological etc. In this context attempts were taken in this study to explore and document whether religion have any significant influence on intra-group differences in making the quality of life or eating habits of a selected group of homogenous population with different religious practices.

Materials and Methods

The present study was conducted on a total of seventy-four eligible primary school teachers in the rural areas of Mirzapur in Tangail district. A two-stage sampling procedure was used to select the study sample. In the first stage, thirteen primary schools were selected by simple random sampling using available records⁷. The second stage of the procedure was the selection of the teachers who volunteered to be in the study. Seventy four participants with equal representation i.e., thirty seven Muslims and thirty seven Hindus were eventually enrolled in the study. Equal number of samples from each group was drawn purposively. The aim and objectives of the proposed research were explained to the participating respondent. Confidentiality of the responses and their identities were assured to them. Structured questionnaires were used to collect information. The questionnaires were pre-tested and modified where necessary through pilot study.

All data were collected in the school, and the study consisted of a diet history with a detailed questionnaire and individual interview on 'quality of life' and anthropometrical examination.

Evaluation of 'quality of life' can be subjective or objective. Subjective evaluation refers to individual's own perception of his or her life, whereas objective evaluation usually comprises a set of norms or standards for acceptable living such as material goods, nutrition, economy, communications, access to health-care etc. In this context Yousuf's quality of life scale was administered to measure the quality of life of the subjects⁸. The scale was developed on the basis of 31 a-priori clusters consisting 197 items. The clusters are: (1) health and quality of food intake, (2) material and financial securities, (3) physical and personal safety, (3) perceived oneself physically and mentally competent and equal to others, (5) relations with parents, (6) relation with siblings, (7) relation with bosom friends, (8) offering help to friends and others, (9) activities related to helping or encouraging other people, (10) activities related to forming or contributing in any formal organization, (11) activities related to solving the problems of cripple, (12) activities related to state (local) or central government, (13) personal education, (14) intellectual development, (15) personal planning, (16) personal understanding, (17) occupational role, (18) need for learning and doing quality work, (19) personal expression, (20) creative ability, (21) sharing joy with family members, (22) socializing, (23) passive recreational activities, (24) observing recreational activities outside home,

(25) participatory recreational activities, (26) active recreational activities, (27) duration of marriage and number of dependents, (28) relation with spouse, (29) age of the respondents at the birth of first child, (30) actual and expected family size, (31) having and raising children. For eliciting responses a binary response pattern (Yes/No) was considered. Some of the items were negatively worded to minimize the effect of set responses.

The dietary assessment covered the habitual dietary intake including meal pattern as well as quality and quantity of the intake. Information on food consumption was obtained with a validated 24-hour food-recall questionnaire. The mean intakes of energy and nutrients were computed from the local Food Composition Table⁹. Eating habits were assessed using food frequency questionnaire developed by Block G et al¹⁰. Using open ended format the questionnaire provides subjects with options of answering different food groups in terms of frequency per day, week or month. No specific quantities were recorded.

Body weight was measured bare foot wearing light clothing and was recorded to the nearest 0.5 kg with a Uni-scale. Height was measured with a mounted tape with the subject's arm hanging freely at their side and recorded to the nearest 0.5 cm. Body mass index (BMI) of the individuals was then calculated as 'the weight in kilogram divided by the square of the height in meters'. Nutritional status was evaluated according to internationally accepted World Health Organization BMI guidelines¹¹.

Data were analyzed and presented by descriptive statistics (mean \pm SD). The statistical analyses were performed by SPSS version 10.0. Analysis of variance was used to determine the variation between the samples.

Results

The socio economic profile of the subjects under study was fairly homogenous (Table 1). There were no significant differences in age, educational level, service experience, salary or income/expenditure categories between the groups (Muslim-Hindu), allowing us to assume that the populations studied were comparable on these variables at base line.

Table 1: Characteristics of the subjects

Characteristics	Muslim (n=37)	Hindu (n=37)	P-value
Age (Years)	43.51 \pm 8.20	44.84 \pm 9.15	.514
Educational level†	2.14 \pm 0.98	2.00 \pm 0.94	.547
Service experience	20.00 \pm 10.11	21.41 \pm 8.51	.520
Salary*	5007 \pm 1254	5131 \pm 1084	.648
Total Income*	9241 \pm 4055	9143 \pm 2871	.904
Expenditure*	8594 \pm 3813	9412 \pm 3791	.358
Weight (kg)	58.16 \pm 8.14	58.00 \pm 7.99	.931
Height (cm)	156.08 \pm 8.84	157.78 \pm 7.95	.387
Body mass index	18.70 \pm 2.92	18.40 \pm 2.53	.642

*Monthly (In Taka); † 1=SSC, 2=HSC, 3=Graduates;

Table 2 shows the means of the individual values of 31-scale priori clusters for measuring the quality of life of the teachers. Inter-group differences for individual items are negligible and non-significant except for 'perceived oneself physically and mentally', 'relation with siblings', 'activities related to solving the problems', 'personal relation' and 'duration of marriage and number of dependents'. Out of these five items, the Hindu teachers scored higher for the item 'relation with siblings' only. Total mean score obtained by the Muslim teachers was 392.05 ± 23.38 and for the Hindu teachers it was 379.24 ± 26.60 . The difference was significant ($P=0.031$).

Table 2: Mean quality of life scores by clusters by religion

	Variables	Muslim	Hindu	P-value*
1	Health and quality of food intake	12.73±1.47	12.35±1.65	.296
2	Material and financial securities	12.08±1.98	12.35±1.90	.551
3	Physical health and personal safety	10.03±0.93	9.78±0.91	.260
4	Perceived oneself physically and mentally	11.54±1.32	10.86±1.59	.022*
5	Relation with parents	18.84±1.59	18.49±1.63	.351
6	Relation with siblings	10.76±1.36	11.32±0.94	.041*
7	Relation with bosom friends	15.40±1.80	14.97±1.57	.275
8	Offering help to friends and others	9.95±1.41	10.00±1.11	.855
9	Activities related to helping or encouraging	6.76±1.04	6.51±1.22	.358
10	Activities related to forming or contributing in	9.08±1.74	8.64±1.64	.274
11	Activities related to solving the problems	9.27±1.10	8.62±1.38	.028*
12	Activities related to state (local) or national	6.32 ±1.33	6.14± 1.32	.541
13	Personal education	12.62 ±1.01	12.70± 1.0	.729
14	Intellectual development	13.59 ±2.43	12.97 ±2.33	.265
15	Personal planning	8.68 ±0.88	8.19 ±1.22	.053*
16	Personal understanding	6.51 ±0.73	6.59 ±0.73	.633
17	Occupational role	10.11 ±0.81	10.05 ±1.03	.802
18	Need for learning and quality work	11.38 ±1.48	10.84 ±1.32	.102
19	Personal expression	6.95 ±0.85	6.73 ±0.90	.292
20	Creative ability	12.62 ±1.67	12.03 ±1.66	.129
21	Sharing joy with family members	9.16 ±1.21	8.81 ±1.37	.247
22	Socializing	9.24 ±1.09	9.03 ±1.26	.432
23	Passive recreational activities	14.24± 1.57	13.57 ±1.74	.084
24	Observing recreational activities out-side home	7.54± 1.02	7.38 ±0.83	.454
25	Participating recreational activities	9.24 ±1.21	9.16 ±1.28	.780
26	Active recreational activities	9.49 ±0.96	9.37 ±1.14	.660
27	Duration of marriage and number of dependents	12.35 ±1.15	11.59± 1.21	.020*
28	Relation with spouse	12.14 ±1.59	11.68 ±2.11	.249
29	Age of the respondent at the birth of first child	24.51 ±4.53	24.13 ±6.77	.778
30	Actual and expected family size	48.95 ±21.36	44.73 ±19.39	.377
31	Having and raising children	19.97±1.79	19.62±1.46	.357
	Total QOL Score	392.05± 23.38	379.24±26.60	.037*

* $P < 0.05$

Table 3 shows the usual pattern of food intake by the study groups. No significant difference between the groups was noted except for the leafy vegetables. Significantly higher consumption of leafy vegetables was found among the Hindu teachers ($P<0.05$). The calorie and nutrient intakes calculated from the 24-hr dietary intake are shown in Table 4. Gross calorie inadequacy was observed among the participants (17%-27%). Calorie requirement was calculated by multiplying BMR and PAL of the participants^{12,13}. Intakes of calorie and protein was recorded significantly higher among the Muslim teachers ($P<0.05$). Inadequacy in the requirement was observed for fat and vitamin C among the Muslims, and calorie, fat and iron among the Hindus. It is appropriate to mention here that one time 24-hr dietary recall often fails to reflect the actual food intake pattern of the individual. In real life situation wide day-to-day variation in the intake is well noticed.

Table 3: Frequencies of food consumption

Food item	Muslim	Hindu	P-value
Rice	30±0	30± 0	.000
Ruti (bread)	17±12	17±12	.977
Meat	4±4	3±3	.456
Fish	22±4	19±8	.107
Egg	10±8	8±7	.290
Leafy vegetable	18±9	22±8	.049*
Non-leafy vegetable	30±0	30±0	.321
Fruits	11±9	13±9	.545
Milk	23±1	22±11	.841
Milk products	4±5	3±3	.482

* $P<0.05$

Table 4: Calorie and nutrient intakes

Calorie and nutrients	Muslim	Hindu	P-value
Calorie (kcal)	2064±575 (83)	1813±415 (73)	.035*
Protein (gm)	65±21 (n.d.)	53±17 (n.d.)	.012*
Fat (gm)	14±7 (70)	17±12 (85)	.308
Iron (mg)	22±14 (n.d.)	18±9 (82)	.192
Calcium (mg)	624±417 (n.d.)	600±302 (n.d.)	.769
Vitamin-A (mg)	1047±1281 (n.d.)	819±958 (n.d.)	.388
Vitamin-C (mg)	38±29 (81)	55±70 (n.d.)	.121

Figures in parentheses are the percentage fulfillment of RDA and n.d. means not deficit. * $P<0.05$

Discussion

The purpose of the study has been to measure the 'quality of life' of two different religious groups of similar occupation (primary school teachers) living in the same environmental condition (rural), and it's influence on their food intake behaviour. The

study group was homogenous in ethnic composition but different in religious practices. The score obtained for measuring quality of life was found to differ significantly ($P < 0.05$) between the groups. Muslim teachers were higher on quality of life than the Hindu teachers. Low score of quality of life among the Hindu primary school teachers was probably due to inherent feelings of social disadvantages. Our findings are consistent with other reported data¹⁴. For a minority community religious identity becomes a mental refuge.

Dietary homogeneity and food practices among the observed population groups are the result of food beliefs dictated by culture rather than religion. Moreover, because of their professional identity they come to know the importance of balanced food for healthy living, and their practices minimized the difference. Religious dictations and rituals usually forbade consumption of certain particular food item but not a particular food group. For example, for the Hindu community beef is forbidden but not the animal meat. Furthermore modernity diffuses religious barrier. The 'food frequency tests' aided in the description of the respondent's meal patterns. Considering the habitual intake, both the groups showed poor consumption of foods containing high quality of protein viz. meat, eggs, milk products. Usually in the rural areas fish is preferred to meat because of the easy availability and low price. Despite a basic uniformity in the overall meal pattern micro cultural factors (like religion) functioned as a variable in food selection. A higher frequency of leafy vegetables in the meal of the Hindu teachers proves their affinity for vegetables. A low or marginal BMI score of the studied rural teachers (Table 1), is suggestive of poor consumption of nutritious foods.

To summarize it can be concluded that religion plays an important role differentiating the quality of life and food intake (calorie, protein) between the minority and majority groups but not the eating pattern. Low dietary intake of the study population group might be due to both non-availability and non-accessibility of required nutritious foods in the rural location. Poor purchasing power among the rural primary school teachers irrespective of their religion affiliation might have contributed for their non-accessibility to foods required.

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