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SOCIO-DEMOGRAPHIC DIFFERENTIALS AND HEALTH SERVICES UTILIZATION PRACTICES AMONG KNOWN HYPERGLYCAEMIC FEMALES

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To find out the health utilization practices among known hyperglycaemic females of age 40 and above and to compare the rates among women of different socioeconomic strata. It is an analytical cross-sectional study. One hundred known hyperglycaemic females of age 40 and above were interviewed and required information was collected by structured questionnaire through house to house survey. Fifty eight (58%) women seeked treatment for diabetes mellitus (DM) type 2, while 42 did not, for one or another reason. Among single women, utilization rates were high (73%), as compared to married coupled women (51.4%). Education (p = 0.00031), occupation (p = 0.0003), family income > Rs. 15000/ cap./ m (p = 0.0013), small family size > 7 (p = 0.0009), positive family history of diabetes mellitus type 2, BMI > 28, hypertention with D.M. type 2 (B.P > 140/90, P=0.00011) and among females with previous history of gestational DM (utilization rate 100%, p=0.00038) were significantly associated with high utilization rates. Distance of health care facility (> 5km), cost of travel, cost of drugs, family income < Rs. 1500/ cap/m. and low perception for serious complications of disease were the reasons for low utilizetion rates. Gender discrimination, faith in quacks and spiritual healers, myths regarding treatment, unsafe travelling and treatment from male doctors were not identified as risk factors for non utilisation of health services for the management of D.M type 2. Health seeking practices and utilization rates among hyperglycaemic females of this defined rural community were not very low (58%). No perception for serious complications of D.M. and economic constraints were the main reasons for non utilisation of health services as compared to socio-cultural factors and myths.

Diabetes mellitus is now a leading cause of morbidity and mortality throughout the world. The economic impact of diabetes is high and it is a major contributor to the escalating health care cost worldwide. Prevalence rates are now available in many developing countries. The WHO has estimated that the global number of people with diabetes will be more than double over the next 25 years. The developing world would bear an increasingly larger burden of disease in this period. South Asia in picture is considered one of the area of highest increase in projected numbers. So, it is customary to study the utilization of health services, to prevent and control the diabetes mellitus along with its grave complications[1]. According to 9th five year perspective plan (1998-2003) access to health services in Pakistan is 55% in urban and 35% for the rural areas[1]. The access of funds to health services has not yet been studied especially in rural communities till date. This fact is true for all the major and minor ailments and same could be expected from a life long disease like diabetes mellitus, in which regular visits to health facility (pubic or private), regular laboratory tests and expenditures on specific dietary intake and treatment of complications is required[2].In the last two decades, diabetes has emerged as a major public health problem. Globally it affects > 30 million people. The national diabetes prevalence survey conducted by the Diabetes Association Pakistan and WHO Collaborating Center, Karachi has shown that > 10% of people in age group of 25 years and above are diabetic and an equal number are suffering from impaired glucose tolerance test.[3]

The public health facility (RHC Raiwind) is > 10 km. from community under study. Though they have private health facility very near to their dewellings but it is difficult for the poorest of the poor to reach and pay, though their needs for diabetes mellitus are greatest.

This reinforced the fact that the presence of facilities did not always guarantee their utilization of health facilities.[4] Apart from availability, accessibility and affordability, other determinants of health care utilization included awareness, quality of services, socio-cultural differentials, young age distribution and gender discrimination act as obst acles in access to and utilisation of health services by females of rural communities.[5]

Health care utilization by diabetic patients as a model for developing countries was evaluated by a cross-sectional multicountry survey at Alaxandria University. The results regarding seeking health care revealed that 70% regularly attended the center for F.up, 60% followed dietetic instructions, 80% were compliant with prescribed therapy, and only 8% did self examination of glucose. The conclusion was that improvement in health seeking practices and quality of care provided to diabetic patients is required in Egypt.[6] Usefullness of any diabetic services can be judged by evaluating the diabetic complications and metabolic control. The results of a cross-sectional population based study conducted at primary health care centres of Wah suburbs in district Rawalpindi, revealed that out of 805 diabetic patients (280 males, 425 females) 23.3% were affected by polyneuropathy and 30% developed nephropathy. It was due to poor glycaemic control as a result of non compliance towards controlled diet, proper medication, regular visit to health facility and regular laboratory tests. Poor economic status was the root cause for these factors.[7] According to the survey of Pakistan Diabetic Society in all provinces of Pakistan, the prevalence of diabetes type 2 ranges from 9.25% to 13.4%.[8]

PATIENTS, MATERIALS AND METHODS

A descriptive analytic cross-sectional study was conducted in rural community of Chamrupur Khurd Distt. Lahore from May 2002 to August 2002. All hyperglycaemic females of age 40 and above (100 in number) who were diagnosed hyperglycaemic in a previous study conducted by the deptt. of community medicine AIMC. Lahore, were included in the study. House to house survey was conducted and the effect of socio-demographic differentials on health seeking and utilization of health services was evaluated. A self structured questionnaire was filled by the researcher herself to get the required information. The data analysis was done using a statistical package, Epi-info version 10. Chi-square test for comparison between groups was undertaken. In all statistical analysis only p-value<0.05 was considered significant.

RESULTS

Mean age of 100 hyperglycaemic females interviewed, was 54.72 (S.D + 3.54). Other socioeconomic characteristics of respondents included were marital status, education, occupation, number of alive children < 4, history of gestational D.M, family size, income/capita/month of the family, literacy rate, occupation among spouses and number of married women living with their husbands.

Table 1:

Age, socio-economic and demographic differentials of respondents	(%)
Age groups	%
40-55	31
51-60	36
61 and above	33
Literacy rate among respondents	19
Literacy rate among spouses	48
Regarding occupation of spouses labourers, farmers and industrial workers	64
Businessmen and office workers	34
Number of women ever had gestational diabetes	20
Number of respondents living with their husbands	70
Single women	30
Number of women having alive children < 4	8
Number of earning respondents	44
Number of women having income/ cap./ month < Rs 1500	77

Health services utilization and non-utilization rate among hyperglycaemic females was 58% and 42% correspondingly. Amongst the 58 respondents who utilized health services for the treatment of D.M type 2, the relation to socioeconomical and demographic characteristics of the respondents and their families, was analysed. It was cross-tabulated with respondents who did not utilized health services for the *treatment* of D.M. and the reasons for non-utilization were also analysed.

As far as the reasons for non-utilisation of health services was concerned, out of 42 respondents who did not utilise health services for the treatment of diabetes mellitus type 2, The 27 (60%) gave the reason that health care facility is too far (> 5 km) p = 0.00097. Thirty two (84.2%) argued for lack of money and high cost of drugs (p = 0.00559). Only 1 respondent (2.38%) showed lack of perceptive need for the treatment of this disease with drastic complications. Gender discrimination, faith in quacks and myths regarding treatment were not the reasons.

DISCUSSION

Though the utilization rate of health services by the women of this rural community was not very high, it was much higher than the surveys done in past, 1998-1999 PIHS, for Pakistan as a whole, 30% of all rural communities surveys showed that

Table 2: *Utilization of health services by socioeconomic and demographicvariables (n = 100).*

Socio-economic and demographic variables		Number of subjects	Utilized Health Services		Not utilized Health Services		P-Value
			#	(%)	#	(%)	
Age of respondents	40-60	67	38	(58)	29	(42)	0.78819
	>60	33	20	(42)	13	(56)	
Marital status	Married	70	30	(51.7)	40	(48.3)	0.004112
	Single	30	28	(93.3)	02	(6.7)	
Education of respond.	Illiterate	81	40	(49.3)	41	(50.7)	0.000312
	Literate/Mat.&>	19	18	(95)	01	(5)	
Education of spouses	Illiterate	48	38	(64.5)	17	(35.5)	0.343412
	Literate/Mat.&>	49	27	(35.5)	22	(64.5)	
Occupation of respond.	Working	43	33	(61)	10	(39)	0.00091
	Non working	57	25	(43.8)	32	(56.2	
Occupation of husbands	Labourers/farmers /indust.workers	46	20	(44)	26	(66)	0.0043
	Teachers/offi.work.	24	19	(80)	05	(20)	
Family inc./ capita/m(Rs.)	500-1500	77	38	(49.03)	39	(50.07)	0.00134
	Above 1500	23	20	(90.0)	03	(10.0)	
Family members	5 & Above	74	36	(49)	38	(51)	0.00121
	< 5	26	22	(84)	04	(26)	
H/O Gestatio-naI D.M	Positive	20	20	(100)	00	(0)	0.000386
	Negative	77	38	(49.5)	39	(50.5)	
Family H/O D.mellitus	Positive	27	18	(66.6)	9	(33.4)	0.2885
	Negative	73	40	(54.7)	33	(45.3)	
B.P of Resp-ondents	< 140/90	60	23	(38.3)	37	(61.7)	0.0011
	140/90 & Above	40	35	(87.5)	05	(12.5)	
Body mass index(BMI)	28 and less	65	37	(56.9)	28	(43.1)	0.07612
	> 28	35	21	(60)	14	(40)	

the access to a general dispensary within a radius of 5 km. from their dwellings and 32% had access to a BHU within the same radius.[9] The effect of age of respondents on health seeking practices was statistically not significant. The results of a comparison study conducted in the department of epidemiology and public health at Yales University revealed the better perception for treatment barriers in elderly women and newely diagnosed young women, so the results of my study are not congruent with the study conducted in USA.[10] In this rural community both groups of diabetic women need attention to improve and alter perceived barriers to reform diabetes specific health seeking behaviour and practices. The health utilization rates were high among single women (unmarried, widows, divorcee and separated) (p=0.004) because the single women of this rural community were self-employed and factory workers and they enjoyed autonomy of decision making. Report of a situation analysis about status of women in Pakistan, the women were not allowed to go out of their homes especially in rural areas. However, during the recent years under Social Action Program and through LHWs the Government has addressed this problem.[11] The relationship between health services utilization for the treatment of DM type 2 and literacy of respondents was highly significant (p=0.00031). A similar kind of study on socio-demographic factors which influence the knowledge, utilization of health services, self care, place of care and number of visits for glycaemic control was conducted in Pakistani muslim diabetic women attending the primary and secondary

care general clinics at Manchester Diabetic centre, UK, concluded that illiterate women visited the clinic less frequently (p=0.003) as compared to the women who could read and write.[12]

Association between health seeking practices and utilisation rates among working and non-working women, literacy rate among respondents and their husbands, occupation of husbands and family income/capita/month of the family was highly significant (p=0.0091, 0.0043 and 0.00134) respectively. These differentials open the economic opportunities in the family circumstances. These socio-economic factors were also highlighted in a community based study conducted in Chennai (Madras) India. Among 112 patients, diagnosed as diabetics at a private clinic, only 51 returned for advice. The interruption was significantly associated with lack of education, type of occupation and total income of the family when they were visited at their homes. As DM needs persistent use of drugs, laboratory tests and specific diet which needs a lot of economic resources.[13]

This study revealed that only 13% visited Government health facility and among these 87% were those who had their family income < Rs. 1500/ capita / month (highly significant p=0.00038). Although this community had private practitioner very near to their dwellings, the poorest of the poor could not afford visiting private practitioners for treatment of life long disease like diabetes type 2. Those who did not use public health facility for their treatment gave multiple reasons. After economical constrain, 2nd most important reason the distance of public health facility (>5km.) was highly significant (p=0.00097).

With regards to non-compliance for treatment the study revealed significant results (p=0.0059). Reasons for non-compliance were cost of drugs and travel cost. A cross-sectional survey conducted in Nigeria showed the impact of prevailing sociocultural and economic milieu on the patients and health seeking practices with utilisation of services for the management of their disease. Out of 197 diabetic women 90% were illiterate, poor and had very little knowledge about their disease and its management. Their greatest concern, as household or as a field worker, was about the impact of diabetes on their ability to work. In addition, they were concerned about getting the treatment of their disease at affordable price.[14]

Other reasons for non utilization of health services for this disease by this community were gender discrimination, insecurity while travelling, myths regarding treatment and faith in quacks and spiritual healers. However these were only 1%. This was perhaps due to the fact that this community was situated near Lahore city and this is the catchment area for field training programe of 4th year, MBBS class of AIMC. Increasing trends for women's education, role of media for women's rights had elevated the level of health education of this community. In contrast to this a reference study conducted by the department of medicine Bolan Medical college Quetta, revealed the reasons for non utilization of treatment for diabetes type 2 among 284 fe-males of age between 40-60 years, who were observed during March 1999 to Dec. 1999 in a rural community of Fort Sandaman. Results showed that 60% of the study subjects were not aware of their disease and its complications while 22% were partially aware and there were 52% respondents who gave the reason that they were not allowed to go out of their homes and the doctor available was male.[15]

For comparison of the cost of treatment for diabetes mellitus type2, between developing and developed countries, a study conducted in Netherland showed the resource consumption and costs among Duch people suffering from this disease. Results of 1371 diabetic patients with their socioeconomic and demographic differentials, drug cost, compliance, travel cost, productivity cost and presence of complications of disease was analysed. Hospital cost was 1/3rd of the medical cost, drug cost was 40% and ambulatory cost was 26%. Presence of complications, family size, family income, ambulatory charges and doses of drugs were positively related to treatment compliance. When the results were combined with other data sources, it was estimated that diabetic patients in Netherland were responsible for 34% of utilisation of health care cost in 1999.[16]

Relationship between positive history of gestational diabetes during one or two consecutive pregnancies and health seeking practices for treatment of diabetes mellitus among the females of this rural community revealed highly significant results (p = 0.0000386). The results of a similar study conducted in Philadelphia, USA among 29 women who were followed from 36th week of pregnancy to I yr. after their delivery were not in conformity with my study because the number of visits, drug intake, dietary habits and blood glucose estimation showed negative descriptive correlational analysis (r=0.34, p=0.07).[17]

The association between positive family history of diabetes mellitus among these respondents and health seeking practices was statistically non significant (p=0.285). A result of a study at Turin University in Italy was significantly displayed (p= 0.0013) when the family history of diabetes mellitus and care about the disease, health seeking practices and management behaviour were studied.[18] Among the diabetic respondents of this rural com-

munity the association between BMI and health seeking practices was not significant (p=0.7699). Many researchers have proved that high BMI is a risk factor for diabetes mellitus type 2 and it has also been proved that reduction in BMI was related to good glycaemic control, but the results of my study were not congruent to the above mentioned risk factor for the disease. This may be due to lack of perceptive needs, poor community based health services and low level of health education. A cohort study at department of Epidemiology and Public Health, University of London, UK, conducted for 16 years supported the hypo-thesis (at 95% confidence level) that obesity was the single most important predictor of diabetes along with other small factors.[19]The results of impact of high blood pressure on diabetes mellitus type 2 on health utilisation were highly significant (p=0.00001).

It is **Concluded** that the rate of utilisation of health services for the management of diabetes type 2 by these women of rural community is not only an indicator to assess the unmet needs of the women but also a reflection of the problems which are related to the quality of public and private health care services available to them. The socio-economic and demographic variables had a great impact on delayed or non-utilization of health services for management of this serious disease and its complications. The study also highlighted certain social and cultural reasons for non-utilisation of health services by the women of this rural community.

RECOMMENDATIONS

We need to create awareness about the seriousness of disease and its complications and also the training of LHWs with special emphasis on prevention and control of diabetes type 2, so women could share their experiences regarding the utilisation of health services. Free diabetic clinics should be established in the vicinity of rural dwellings. A network of Primary Health care facilities should be rapidly extended to rural areas. Literacy rate should be raised among general population with special emphasis on women.

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