Journal of Oral Hygiene & Health

Gwengu, J Oral Hyg Health 2017, 5:1
DOI: 10.4172/2332-0702.1000222

Research Article Open Access

Determinants of Utilization of Oral Health Services by Postnatal Mothers in Winterveldt, Gauteng Province, South Africa

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Abstract

A case control study was conducted to determine factors (enhancers and barriers) relating to the utilization of oral health services by postnatal mothers in the Sisters of Mercy Clinic in Winterveldt. Control of oral diseases of postnatal mothers depends on the availability, readiness and accessibility of oral health systems, but any reduction of risk to diseases is only possible if services are oriented towards Primary Health Care (PHC).

107 cases (postnatal mothers who were present users of oral health services in the dental unit at the time of their interviews) and 107 controls (postnatal mothers who were present non-users of oral health services in the postnatal and immunization unit at the time of their interviews) were included in the study. Age matched non-users of oral health services who were fulfilling the same inclusion criteria for users of oral health services were selected for comparison. A closed ended questionnaire was specifically designed for the study in English, and together with the information sheet and consent forms translated into the vernacular. Questionnaires were administered by a trained researcher from December 2010 - February 2012. The questionnaire was divided into four categories, namely, socio-demographic factors, socio-economic factors, access factors and utilization factors. Bivariate (Chi-square test) and multivariate (logistic regression) analyses were carried out to find associations between the factors and use of oral health services.

Results: The study revealed that the majority of postnatal mothers were less than 29 years old (61% were cases and 47% were controls); were biological mothers (93% cases and 78% controls); were unemployed (93% cases and 84% controls); were on social grants (68% cases and 66% controls) and had a secondary school education (80% cases and 79% controls). In the control group, 64% reported that they had dental problems compared to 36% in the case group, but only 51% of the controls reported that they had previous visits at Sisters of Mercy dental clinic compared to 64% of the cases. Bivariate analysis revealed significant differences in 14 variables. Logistic regression revealed the strongest predictors for present use of oral health services to be: the number of household children and travelling time. Participants in the dental unit had to travel for 30 minutes who were found to be more likely to utilize oral health services (OR= 1.38; CI=1.01-1.90; P ≤ 0.05) compared to those from the postnatal unit who had to travel longer (more than 1 hour). Participants with fewer children in the postnatal unit were found to be less likely to utilize oral health services (OR= 0.53; CI=0.305-0.924; P ≤ 0.05) compared to those with more children (>5) in the dental unit.

Conclusions: Despite having fewer children, most postnatal mothers in the postnatal unit did not make previous use of oral health services. There is a need to encourage them to utilise oral health services and to ensure that the Sisters of Mercy dental clinic is accessible to them. Mothers who had to walk for more than an hour to reach oral health services had accessibility constraints which can affect them negatively especially in harsh weathers (rainy, cold or hot days in South Africa).

Introduction

General health of postnatal mothers is a major public health concern in South Africa in light of the high mortality and morbidity rates among postnatal mothers and their babies [1,2]. Data on patterns of utilization of postnatal health services in South Africa are not routinely collected even though 84.1% of clinics provide postnatal care [3]. Some studies highlighted that postnatal mothers rarely attend postnatal services as these services focused primarily on the infant, with little attention paid to maternal health of mothers [4].

Hove and Lashman reported possible reasons for low utilization of health services by postnatal mothers [5,6]. These include factors such as lack of time, dissatisfaction with attitude of health workers, short contact time, lack of understanding of health workers, long waiting time at the expense of other important domestic chores, lack of information about the importance of visits, knowledge deficit of postnatal care, low level of education, poverty, lack of emotional support, problems in family functioning, and fragmented services and have been cited as some of the reasons [5,6]. However, studies by Stamp and Crowther reported that 54% of women do consider utilization of postnatal services an important factor because it provides emotional support, information, assistance with breast feeding and physical care [7].

Also important is the utilisation of oral health services by postnatal mothers, as it can influence conducive oral health behaviour in their children. Previous studies have highlighted that mothers are primary care-takers of their children [8]. Mother's attendance to oral health is, therefore, a good predictor of children's attendance and health in young children [8]. Utilization of oral health services by postnatal mothers is

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Received: March 31, 2017; **Accepted:** June 14, 2017; **Published:** June 21, 2017

Citation: Gwengu P (2017) Determinants of Utilization of Oral Health Services by Postnatal Mothers in Winterveldt, Gauteng Province, South Africa. J Oral Hyg Health 5: 222. doi: 10.4172/2332-0702.1000222

the extent to which a number of individuals or group of people makes use of oral health service in a specific period of time. Therefore, oral health services can provide a vital functional and significant role in the well- being of postnatal mothers as well as their children in providing primary, secondary and tertiary prevention of oral diseases [8]. Oral health services at Sisters of Mercy in Winterveldt are based on the Primary Health Care (PHC) approach and these services are free [9]. Delivery of free health services in South Africa is done with a prime focus especially for the low socio-economic communities and they are widely distributed, established and available throughout the country. Van Wyk and van Wyk stated that delivery of such a health care approach began with the restructuring of health services in South Africa in 1996 [10]. Moreover, PHC is community based approach that was established to provide appropriate health services and also to improve the health the health status of its citizens particularly the less privileged communities [11]. PHC brings healthcare services as close as possible to its local communities and its main objective is to promote, maintain, preserve and restore human health and wellbeing of South African citizens [11]. As such PHC centres like Sisters of Mercy Clinic are contributing enormously to the health and wellbeing of South Africans through provision of services in accordance with the international recognized or legally prescribed norms and standards [11].

The availability of integrated oral health care services has a potential to improve access to oral health services, to redress the imbalances in health care services delivery and also to redress inequities in oral health care. Even if there is availability of free primary health services in South Africa, oral diseases still remain a major public health problem because of its high prevalence, severity and impact on an individual's quality of life [12]. Oral diseases are also the most commonly occurring chronic conditions that are affecting individuals and communities worldwide [13]. Oral diseases can have resultant impact on communities' general health and well-being [13]. Dental caries being the most prevalent chronic childhood disease worldwide [14] whilst periodontal disease is a chronic infection of the gingiva and supporting tooth structures which is highly prevalent particularly among adults of low income communities [15]. Both periodontal disease and dental caries are typically asymptomatic conditions for long periods of time with only intermittent exacerbations [15]. The impact of oral diseases on individuals leads to compromised functioning of the oral cavity such as presence of a fewer number of functional teeth in the oral cavity, difficulties in mastication, sometimes causing considerable pain and also by changing what people eat [13]. High levels of oral diseases can also result in a greater demand for oral health facilities, huge financial resources to cater for community needs and sometimes creating a financial strain on individuals [13]. Communities that have lost their teeth or who have painful teeth tend to avoid food that requires mastication, and this avoidance leads to inadequate nutritional intake [13,16]. The resultant impact is poor general health and compromised quality of life [13,16].

Various conceptual models have been developed in health research to appreciate the complex and multidimensional aspects of health services utilization. Six models of health care utilization were considered in this study, namely Rosenstock's health belief model [17], Anderson's health behaviour model [18], Young's choice-making model [19], Purola's model [20], Antonovsky's model [21] and Health belief model. These models contain themes, differences and deficiencies which helped in conceptualizing different behavioural models. The current study draws heavily from Andersen's behavioural model (1972) and the revised Andersen's model (1995) because they were both considered to best explain differences in access of oral health services by postnatal mothers [18,22].

The Andersen model examines influences of individual's demographic characteristics and health delivery systems [22]. The model in the study points out that certain factors (namely, marital status, family size etc.) predispose postnatal mothers to utilize health services while other factors would help them to utilize health services. Even if an individual is inclined to utilize health services some means must be available to allow them to do so [20]. Enabling factors (namely, family income, service availability etc.) would allow or hinder utilization of oral health services. And even if there are predisposing and enabling factors, the individual must still perceive the need for health care before they will be utilized. Therefore a perception of (severity of) illness (namely, dental pain, bleeding gums) is necessary for individuals to utilize oral health services [23]. The balance amongst these factors varies in different aspects and levels of utilization.

With these factors in mind, an adapted theoretical explanatory model (Figure 1) was developed for the current study. It recognizes that general health and oral health are influenced by multiple aspects that simultaneously act together to influence the outcome of utilization of oral health services. These factors might differ within the cultural and economic background of the setting.

The objective of the current study is to explore the association between the utilization of oral health services and potential determinants (barriers).

The findings of the study will hopefully help health care providers to better manage the barriers to utilization of oral health services. Knowing which factors enhance and / or predispose postnatal mothers to utilize these services makes it possible to develop and implement interventions to mitigate poor utilization of oral health services by postnatal mothers.

Methods

Study design and setting

A case-control study was conducted from December 2010 – February 2011 at the Sister of Mercy Clinic in the Tshwane Pretoria district, Guateng Province, in South Africa. It is a Primary Health Care Centre (PHC) situated in an impoverished rural community.

Study population and sampling

Cases and controls were selected from all mothers accompanying children who attended postnatal medical care, who had given birth to the child, who were attending immunization services (extending to ≤ 12 yrs), who were in the postpartum period (after birth extending to 6 weeks), and guardians who were permanently with a child of a young mother who was attending school, or who had lost his or her mother. Siblings and standby carers were excluded for participation.

A non-probability purposive sampling technique (sample of convenience) was used to select eligible participants into the study. There were 107 cases (postnatal mothers who were the present users of oral health services in the dental unit at the time of their interviews) and 107 controls (postnatal mothers who were present non-users of oral health services in the postnatal and immunization unit at the time of their interviews). Age-matched non-users of oral health services who fulfilled the same inclusion criteria for users of oral health services were selected for comparison.

Measurement instrument

A closed ended questionnaire in English was specifically designed for the study and, together with the information sheet and consent forms,

were translated into the vernacular. Questionnaires were administered by a trained researcher from December 2010 - February 2012. The questionnaire was divided into four categories; socio-demographic factors, socio-economic factors, access factors and utilization factors. The questionnaire was completed in the form of an interview by a single researcher and it took approximately fifteen minutes. Data collected from all participants in the study included the following independent variables: socio-demographic factors (age, ethnicity, marital status and level of education), socio-economic factors (employment status, number of household children, number of employed individuals and source of income), access factors (travelling time, means of transport, travelling costs, affordability of dental charges, knowledge of service fees, source of information, previous dental information, structural awareness of dental clinic, and the Sister of Mercy Clinic as choice of centre), utilization factors (previous dental visits, presence of dental problems, dental problem management, previous dental problems, previous dental check-ups, types of dental problems).

Statistical analysis

The data were coded, entered, cleaned and analysed using SPSS for Windows version 21. Statistical analysis had three stages: *Univariate analysis*: for continuous variables and categorical variables (frequency). *Bivariate analysis*: Pearson's Chi square test to compare categorical variables. *Logistic regression analysis*: to assess independent predictors of utilization of oral health services.

Ethical considerations

The study was approved by the Medical Research Ethics Committee (MREC) of the Faculty of Health Sciences, University of Limpopo (Medunsa Campus), Protocol Number: MREC/D/211/2010:PG. Permission and approval to conduct the study was also obtained from the relevant authority (Management of Sisters of Mercy) of Winterveldt clinic.

Results

Univariate analysis

An equal number of participants (107 cases and 107 controls) fulfilling the inclusion criteria were examined in the study. Table 1 showed that majority of postnatal mothers were less than 29 years of age (61% were cases and 47% were controls) with a mean age of 29 years (SD=0.93); were biological mothers (93% cases and 78% controls); were unemployed (93% cases and 84% controls); were on social grants (68% cases and 66% controls) and had a secondary school education (80% cases and 79% controls). Marital profiles of the participants were single (81% cases and 58% controls) or separated (1% cases and 1% controls). A small number were widowed (0% cases and 3% controls).

Economically, the bulk of participants were unemployed (93% cases and 84% controls), were on social grants (70% cases and 71% controls) which originated either from their children or grants for the elderly or their families were supported by relatives or siblings (1% cases and 1% controls). The average family size for postnatal mothers was five persons (20% cases and 12% controls) - with one person employed (49% cases and 51% controls) or with extended households of about 3 other persons (44% cases and 43% controls). A single employed person, therefore, was likely to support approximately 8 other persons for the case group and 6 for control group.

In Table 2 most participants did not rely on the formal mode of transport to access the clinic; they walked for less than an hour (50) minutes (69% cases and 56% controls) or used buses, taxis, etc. (23% cases and 32% controls) at an average cost of R8 for case group and R11 for the control group. Postnatal mothers in the control group (33%) reported that they were more aware of the location of the dental clinic compared to the case group (23%). Both groups had reported that they received oral health information from the outpatient facility at Sisters of Mercy Clinic. Knowledge of free and affordable oral health services by the control group (76%,) was high compared to the case group (56%) but this information did enable the control group (51%) to be

Socio-demographic and socio- economic characteristics			
Variable	**Cases No (%)**	**Controls No (%)**	**P- value**
Age of participants			
≤ 22	34 (32)	20 (19)	
23 - 28	31 (29)	30 (28)	
29 - 33	22 (21)	22 (21)	
34 - 75	20 (19)	35 (33)	
Mean ± SD	28.06 ± 9.10	30.75 ± 9.04	0.052*
Marital status			
Single	87 (81)	62 (58)	
Married	8 (8)	16 (15)	
Widowed	0 (0)	3 (3)	
Separated	1 (1)	1 (1)	
Living with a partner	11 (10)	25 (23)	0.004*
Educational level			
Primary	13 (12)	13 (12)	
Secondary	86 (80)	84 (79)	
Tertiary	4 (4)	7 (7)	
Unschooled	4 (4)	3 (3)	0.805
Employment status			
Unemployed	99 (93)	90 (84)	
Employed	6 (6)	16 (15)	
Self employed	2 (2)	1 (1)	0.070
Number of maternal children			
0 - 1	45 (42)	40 (37)	
2 – 3	55 (51)	54 (51)	
>3	7 (7)	13 (12)	
Mode ± SD	1 ± 1.09	2 ± 1.51	0.349
Household children (extended family)			
0 - 1	5 (5)	21 (20)	
2 - 3	47 (44)	46 (43)	
4 - 5	34 (32)	27 (25)	
>5	21 (20)	13 (12)	
Mode ± SD	3 ± 1.94	3 ± 1.99	0.006*
Family size			
0 - 4	27 (35)	43 (40)	
5 - 7	54 (51)	40 (37)	
8 - 16	26 (24)	24 (22)	
Mode ± SD	5 ± 2.51	3 ± 2.55	0.054*

Table 1: Socio-demographic and socio-economic variables of the study participants (107 cases and 107 controls).

Access characteristics			
	Cases No (%)	**Controls No (%)**	**P- value**
Residence in Winterveldt			
Yes	103 (96)	89 (83)	
No	4 (4)	18 (17)	0.002*
Traveling time (min)			
0 - 30	66 (62)	46 (43)	
31 - 45	7 (7)	9 (8)	
46 - 60	26 (24	31 (29)	
61 - 607	8 (8)	21 (20)	
Mean ± SD	38.3± 25.59	60.56± 57.67	0.018*
Means of transport			
Taxi, Bus, train, own car	24 (23)	34 (32)	
Walking ≤ 1	74 (69)	60 (56)	
Walking >1	9 (8)	13 (12)	0.193
Travelling costs(Rand)			
0	50 (51)	51 (48)	
1 - 14	44 (41)	25 (23)	
15 - 20	11 (10)	13 (12)	
21 - 80	2 (2)	18 (17)	
Mean ± SD	7.71 ± 7.81	10.88 ± 13.17	0.000*
Dental clinic awareness			
Yes	76 (71)	89 (83)	
No	31 (29)	18 (17)	0.034*
Previous dental information			
Yes	75 (70)	94 (88)	
No	73 (30)	13 (12)	0.001*
Source of information			
Postnatal clinic	8 (8)	10 (9)	
Community nurse	1 (1)	3(3)	
Outpatient clinic	39 (36)	41 (38)	
Never received	33 (31)	8 (8)	
Other	26 (24)	45 (32)	0.000*
Knowledge of service charges			
Yes	60 (56)	79 (74)	
No	4 (4)	2 (2)	
Don't know	43 (40)	26 (24)	0.024*
Affordability of dental treatment			
Yes	51 (48)	75 (70)	
No	6 (6)	4 (4)	
Don't know	50 (47)	28 (26)	0.004*
Choice of centre			
Closer home	65 (61)	52 (49)	
Friendly staff	5 (5)	3 (3)	
Good services	32 (30)	50 (47)	
Do not know	3 (3)	1 (1)	
Closer home & friendly staff	1 (1)	1 (1)	
Friendly staff & good services	1 (1)	0 (0)	0.162

Table 2: Access and utilization variables of the study participants (107 cases and 107 controls).

better users of oral health services that are available at Sisters of Mercy. However, both groups indicated that they were not regular users of oral health services within the past year (88% cases and 82% controls) and only 2% of both groups reported that they visited oral health services more than twice per annum. Most of the control group (47%) reported that they found general services at Sisters of Mercy Centre were good compared to case group users (30%).

Oral health parameters

The control group who were the present non-users of oral health group reported that they suffered from dental pain and had bleeding gums, were aware of the location of the dental clinic but only a few of them (17%) had undergone prior dental check-ups at this facility. The two groups (cases versus controls) reported that they managed their previous dental problems by means of extractions for the alleviation of pain (16% cases and 27% controls), some had gingival bleeding (8% cases and 12% controls) and some had dental pain (32% cases and 42% controls). Previous exposure of postnatal mothers (case group) at the Sisters of Mercy dental clinic (64%) helped to some extent because some of them managed to have done restorative dentistry, namely, dental fillings (12% cases and 9% controls). The case group (36%) reported that they had less dental problems compared to the control group (64%) at the time of their interviews and they also reported less dental problems in the past (36 % cases and 43% controls). Members of the case group (55%) were slightly larger users even including for other medical services (namely medical check-up) compared to the control group (51%).

Bivariate analysis

Chi-square test of association revealed only 5 statistically significant variables in the socio-demographic and socioeconomic characteristics (Table 1). There were only 9 statistically significant variables in the access and utilization characteristics (Table 2). A total of 14 variables at $p \leq 0.05$ showed statistically significant differences between cases and controls.

Multivariate analysis

The relative strength of significant variables was further explored using binary logistic regression analysis (Table 3). Dependent variables were dichotomous ("yes" - for present users of oral health services at the time of their interviews and "no" - for present nonusers of oral health service at the time of their interviews). The independent variables were age, marital status, number of household children, family size, source of household income, residency in Winterveldt, travelling time, travelling costs, dental clinic awareness, prior dental information, source of dental information, knowledge of service charges, affordability of dental treatment and types of dental problems. The model was significant at step 1 with χ^2 =3.04 and p value=0.93. The number of household children and the travelling time variables were found to be significant at P value=0.025 and P value=0.046, respectively. Participants who were present users had to travel for 30 minutes to the dental unit were found to be more likely to utilize oral health services (OR= 1.38; CI=1.01-1.90; $P \leq 0.05$) compared to the nonusers who had travel longer (more than 1 hour). Participants from the postnatal unit with fewer children were found to be less likely to utilize oral health services (OR= 0.53; CI=0.305-0.924; $P \leq 0.05$) compared to those with more children (>5) in the dental unit group.

Discussion

Utilization of oral health services

The best predictors for present users of oral health services at the Sisters of Mercy clinic were the number of household children and travelling time.

Household children

Postnatal mothers who were present non-users of oral health services (control group) had fewer children; however they were also more of non-attendees of oral health services in the past. It is assumed that the past history or behaviour of not visiting Mercy dental clinic could, may be possibly, be hampered by combined effects, such as their age (majority were young mothers), family structure (single mothers) and family responsibility (having to walk for more than 1 hour to the clinic). A different study from the present study reported that family structure and number of children and children's age were associated with family responsibilities and the rate of the dental attendance pattern, but in this study it was not ascertained [24]. McGrath et al. findings were contrary to the present study as they reported that mothers with more than two children were 40% less likely to be regular attendees of oral health services compared to mothers with one or two children [24]. A different study by Grembowski et al. also reported contrary to the present study by stating that mothers with greater a number of children (three or more) were also categorized as irregular attenders of oral health services compared to those who had only one or two children [25].

Even if postnatal mothers (non-users) at Sisters of Mercy had fewer children, they also had other socio- economic constraints namely; secondary school educations only, were unemployed and had financial difficulties (only had child social grants). Postnatal mothers (non-users) with more than two children may have had further difficulties to appropriately monitor their own oral health as well as of their children due to financial constraints, time factors and/or failing to cope with the family responsibility workload. Another study by McGrath et al. stated different viewpoints from the present study by reporting that combined effects of age, family structure, income, educational level, working status, servicing factors (time taken to be treated or given an appointment) do have impacts on attendance of dental services [24]. These authors with contradictory viewpoints further stated that young single mothers (age16-34) and those with more than two children were less likely to attend the dentist [24].

Travelling time

Comparatively, most postnatal mothers who were non users of oral health services at the time did not rely on a formal mode of transport to access the clinic and most of them walked for at least thirty minutes. A study by Harris and others reported that the average travelling time to health facilities in the rural areas in South Africa was about 30 – 40 minutes and some would need to travel the whole day [26]. Extensive travelling time has a negative impact and demotivates communities in accessing healthcare facilities as they might not be physically well enough to walk [27,28].

Postnatal mothers who were the present users of oral health services have invested more time in their health because of prior contact (prior information from the clinic) and because of their commitment to the maintenance of general health unlike non-users who may have both lacked information in this regard and had a low commitment level to general health. The concern about low utilization of oral health services by postnatal mothers at the postnatal unit has helped this study identify factors that influence utilization of oral health services (travelling time and number of household children). Extended family members (increased household children numbers) may led to; an increased

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[a]	*Age*	0.172	0.184	0.875	1	0.350	1.188	0.828	1.705
	Marital status	-0.332	0.674	0.243	1	0.622	0.717	0.191	2.690
	Household children (extended family)	-0.633	0.282	5.025	1	0.025*	0.531	0.305	0.924
	Family size	0.476	0.360	1.754	1	0.185	1.610	0.796	3.257
	Source of household income	-18.333	40194.236	0.000	1	1.000	0.000	0.000	
	Residence in Winterveldt	-0.532	0.738	0.519	1	0.471	0.587	0.138	2.496
	Traveling time (min)	0.325	0.163	3.990	1	0.046*	1.384	1.006	1.903
	Travelling costs(Rand)	0.158	0.211	0.563	1	0.453	1.795	0.775	1.772
	Dental clinic awareness	0.585	0.747	0.612	1	0.434	1.795	0.415	7.766
	Previous dental information	-1.888	1.381	1.870	1	0.171	0.151	0.010	2.267
	Source of information	-0.130	0.657	0.039	1	0.843	0.878	0.242	3.184
	Knowledge of service fees	-0.512	0.679	3.016	1	0.451	0.599	0.158	2.267
	Affordability of dental treatment	1.100	0.633	3.016	1	0.082	3.005	0.868	10.400
	Types of dental problems	-19.839	22050.446	0.000	1	0.999	0.000	0.000	
	Constant	40.088	45845.849	0.000	1	0.999	2569495072544		

Note: Variable(s) entered on step 1: Age, marital status, household children, family size, source of household income, residence in winterveldt, traveling time, travelling costs, dental clinic awareness, previous dental information, source of information, knowledge of service fees, affordability of dental treatment and types of dental problems

Table 3: Variables in the equation.

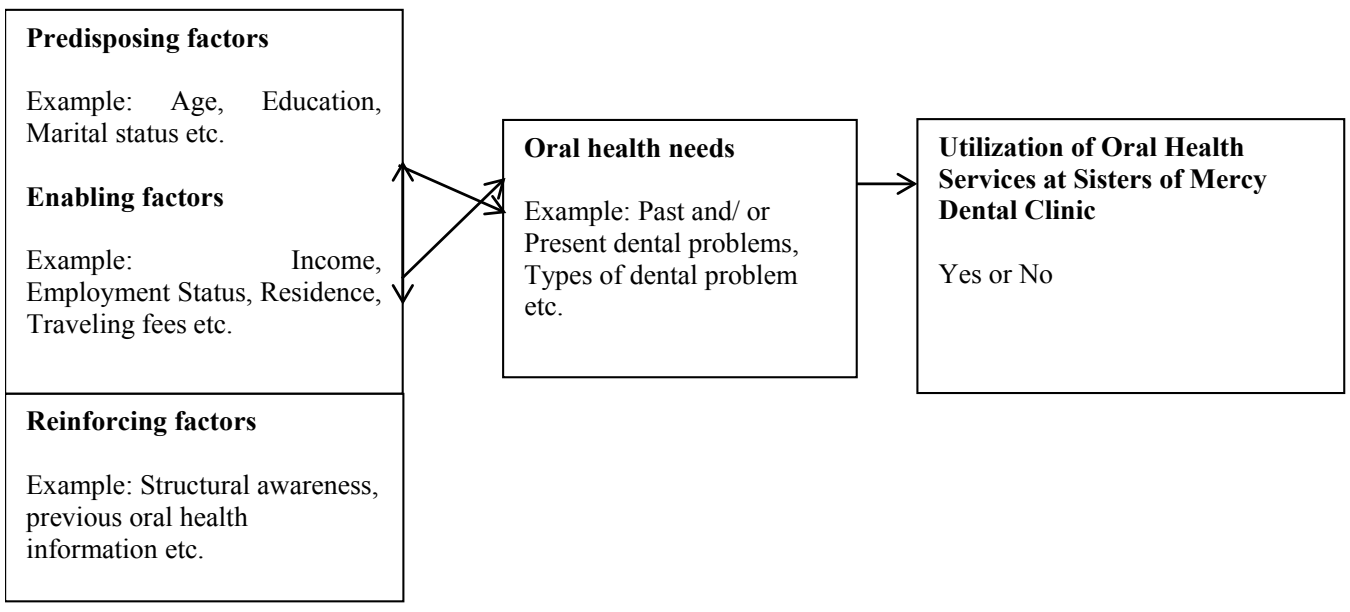

Figure 1: Adapted theoretical explanatory model- individual level.

financial burden (more financial responsibilities); family workload burden ; resulted in further parental stress (due to overwhelming parental responsibilities, minimal social grant support for themselves and their children) and resulted then, finally, in the non-utilization of oral health services. Family members are expected to be in charge of their dental health attendance and, consequently, their own general health. Attention should be paid not only to the postnatal mothers own dental health care but also to that of the whole family because of their role modelling skills and their role of being primary care-takers. Therefore postnatal mothers who were currently users of oral health services at Sisters of Mercy clinic have a great responsibility to manage their oral health but still travel for thirty minutes with the intention to improve their own health and their children's dental health. Non-use of oral health services by postnatal mothers in the postnatal unit can lead to poor oral health (bleeding gingiva, dentally associated pain or any other untreated diseases). On the other hand, the good use of oral health services in the past and at the time presently can lead to better oral health (higher number of functional teeth, less experience of dental pain and fewer untreated oral diseases).

Even if Primary Health Care facilities were to be accessed free of charge in South Africa, there are other aspects such as the travelling cost and the lack of means of transport to health facilities that can hinder attendances, especially in rural areas like Sisters of Mercy [29].

In the present study, it was noted that majority of postnatal mothers were unemployed, were on social grants, some were walking for at least thirty minutes, some had no dental needs at the time of their interviews and these aspects could also affect or hinder attendance of oral health at Sisters of Mercy Clinic.

Previous study with different viewpoints from the present study stated that the principle factor that mostly affects vulnerable groups was lack of financial capacity to utilize health services and a lack of need to use health facilities [28,30]. A variety of factors have been acknowledged in other previous studies as the leading causes of poor utilization of any Primary Health Care Services, regardless of them being free services [31-33] : these include poor socio-economic status, lack of physical accessibility, cultural beliefs and perceptions, low literacy level of mothers and large family size [3,16,33]. In the present study travelling time was a barrier to utilization of oral health services (postnatal mothers walked for at least thirty minutes) hence; barriers to utilization of oral health services would remain and still exist even if services were free. Barriers to utilization of oral health services by postnatal mothers from the postnatal unit can be attributed to long travelling times. This barrier has been noted at an individual level as opposed to organizational level. Previous authors also noted barriers to utilization of health services to be one regardless of a specific health condition [34].

A different viewpoint according to other authors Pender and Pender stated that individuals with high value of health will utilize services more frequently than those with low values [35]. Various studies have also indicated that perceived benefits of utilizing health services influence individuals differently [36-38]. Perceived benefits from utilization of free health services appear to facilitate continued practice and to reinforce beliefs about health benefits [39]. Therefore, it is assumed that some of postnatal mothers at Sisters of Mercy Clinic were not likely to utilize services if the perceived benefits in their views were minimal or nonexistence.

Conclusion

The study demonstrated that despite the fact that most postnatal mothers from the postnatal unit had fewer children, they did not make previous use of oral health services. There is a need to encourage them to utilise available oral health services and to ensure that the Sisters of Mercy dental clinic is more accessible for them. Mothers who had to walk for more than an hour to reach oral health services certainly had accessibility constraints which can affect them negatively especially in harsh weathers (rainy, cold or hot days in South Africa).

Limitations of the Study

In this study, generally those visiting the Sisters of Mercy clinic were not representative of postnatal mothers in Winterveldt area. Therefore, extrapolations of the findings were limited only to mothers attending this clinic. There may also be a recall bias in terms of previous visits at the Sisters of Mercy dental clinic for some postnatal mothers, as some participants showed difficulty to recalling whether they attended this clinic or dentists elsewhere. Recall bias was minimized by asking specific questions that related and verified activities that took place during that dental visit (like extraction, scaling etc.), helped volunteers recall or to clear their minds and to minimize errors.

Recommendations

The current study was an explorative study to ascertain, if possible, what factors could be related to improvement in oral health services use among postnatal mothers. In future studies the following questions could be addressed: Assessing the prevalence of dental services by postnatal women; qualitative studies asking about reasons for utilization or non-utilization of dental services [40]; to repeat the study in different settings, including in urban areas.

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