

Exchange Wedlock Along with Consanguineous Frequency at Different Deaf Schools in Karachi Pakistan

Dr. Faheem Ahmed¹, Dr Imtiaz Ather Siddique^{2*} and Dr Bazil Ather³

¹Assistant Professor, Department of Community Medicine, Sindh Medical college, Jinnah Sindh Medical University, Karachi, Pakistan

²Specialist E.N.T, Chiniot Hospital, Korangi, Karachi

³Research Clinician, Queen Mary University of London

*Corresponding Author: Dr Imtiaz Ather Siddique, Specialist E.N.T, Chiniot Hospital, Korangi, Karachi.

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Abstract

Introduction: Wedlock is beneficial when a couple is hesitant to meet the societal ideal of traditional marriage acceptance with consanguineous along with exchanged wedlock carrier in hearing loss outcomes. Therefore, the aim of this study was to determine exchanged wedlock along with consanguineous acceptance magnitude among parents at deaf schools in Karachi, Pakistan.

Methods: We identified 714 deaf children with a profound sensory neural hearing loss (PSNHL) confirmed diagnosis from 20 January 2020 to 30 April 2021, with at least six self-reported parent response measurements regarding their school-registered deaf child. We linked to parent's self-reported family marital category exchanged wedlock to the risk of family type relationship in consanguinity (First-degree close parent relationship=1 uncle, sister, Second degree near close parent relationship= 2 step mother, Non-close parent relationship=3 caste, non-caste, same and different ethnicity) after PSNHL diagnosis. A univariate analysis for categorical data such as gender, family type etc.

Results: Deaf children (n=1378) who were PSNHL (714) had a greater risk-prone toward consanguineous (94.5%) relationship (OR 1.73;95% CI 1.18 to 2.55), exchanged wedlock along with consanguinity (2.2%) relationship (OR 1.09; 95% CI 1.33 to 4.67). Children of parents whose marriage was exchanged wedlock (3%) also had a greater risk of shared environment relationship (OR 1.10; 95% CI 0.93 to 1.29) than children who were the result of non-close parent relationships.

Conclusions: Exchanged wedlock along with consanguineous acceptance rate was very low. Contextual pre-marital relationship guidelines may incorporate into routine medical advice care for carrier families.

Keywords: Wedlock; Exchanged; Consanguineous; Deafness; Public health; Ethics

Introduction

The World Bank has identified determinants of exchanged wedlock (watta satta) in which consanguineous and non-consanguineous mainly sister exchange relationship agreement between two families is largely practiced in rural Pakistan. However, few

consanguineous along with exchanged wedlock were reported in rural Pakistan [1,2]. The cardinal advantages of watta satta were trust-building, long-lasting marriage bonding, nepotism, and retaining wealth in families. The other determinants were equity in

relationships, and family stress. However, there are no data regarding the effect of Watta Satta on consanguinity hearing loss outcomes in urban Pakistan, even though a lack of watta satta relationship in a family is a well-documented underlying factor for family abuse, marital discord, including those associated with family violence [3].

The family law in Pakistan doesn't address watta satta and consanguineous sociocultural economic environment affairs complex in Pakistan. Similar watta satta marriage practices have already been promoted in many Asian and African countries based on political motivation that watta satta results in a broad range of good family governance and family health benefits. It is reasonable to expect resource interest-free marriage relationship agreements to mitigate poor hearing loss outcomes due to consanguinity. It is well known that socio-cultural-economic environments improve with resource interest-free marriage relationship agreements. Those who engage in non-consanguineous, non-watta satta exchange marriage relationships have a lower incidence of various health outcomes [4,5,6]. Parental non-consanguineous non-watta satta marriage relationship reduces the risk of consanguinity hearing loss outcome, which is the main contributor to inner ear damage caused by inherited autosomal recessive, heterogeneity deleterious allele. [7,8] Additionally, resource interest-free marriage relationship benefits overall health, increases hearing capacity and inner ear strength, and improves hearing health [9,10]. These are options by which resource interest-free marriage relationships could play an important role in mitigating the profound sensory neural hearing loss, in addition to its beneficial effects on early-onset inherit diseases. The prevalence of consanguinity-related PSNHL at birth has been relatively variable at 6-8% cases per 1000 live births by different surveys.

Approximately 80-90% of these cases have a genetic involvement establishing a link that parental consanguinity is a risk factor and a greater fetal risk. Therefore, inherited hearing deaf child populations across the globe have been advised to register early at rehabilitation school and have early contact with an otolaryngologist. Early referral and other measures allow deaf children to have full access, and opportunity to gyms, parks, and other venues where the child can be active. In Pakistan, education about the benefits and risk of watta satta and advice toward consanguineous marriage relationships has been relatively absent. While pre-marital advice on the non-consanguinity relationship was generally insufficient, cultural promotion measures have likely had the intended

consequence of reducing watta satta even more [11,12,13]. In fact, earlier studies showed a significant reduction in watta satta since the beginning of consanguineous marriages. While an increased number of exchanged marriages along with consanguineous is coming up which was not in this part of the consanguineous belt before. In exchange marriage, fairly rarely groom exchange one way depending on either family's wealth size is also seen in an urban settings Karachi, Pakistan. So patterns in exchanged marriage are changing. These changing patterns affect the consanguinity rates of profound sensory neural hearing loss so the aim of this study was also to see the current frequency of exchanged marriage along with consanguineous in the largest city, Karachi, Pakistan. In this study, we used self-reported watta satta items that captured consanguinity and profound sensory neural hearing loss among deaf children. Prior to the non-consanguinity health counseling to evaluate the hypothesis that consistently meeting guidelines prior to diagnosis is associated with more favorable watta satta outcomes among deaf children. If exchange marriage in a shared environment is shown to be a protective behavior for promoting future consanguinity, efforts should be made to enable and encourage non-consanguineous marriage as a means of protecting progeny from severe hearing loss outcomes.

Methods

Study design: This is a descriptive cross-sectional study in which watta satta and consanguinity were self-reported in the case report form during one year preceding the January 2020 CoVid-19 pandemic lockdown.

Setting: This study was conducted at three main deaf rehabilitation schools in urban Karachi, which has both public & private sector healthcare system that serves approximately 20 million residents in southern Sindh, Pakistan. Ethnic make-up, neighborhood education, and household income are relatively similar to the area population. All the deaf rehabilitation schools refer the deaf child's parent to hearing screening laboratories that generate laboratory results and diagnoses in both health sectors in Karachi, Pakistan.

Study Inclusion Criteria

Children aged 18 years and younger with a positive profound sensory neural non-syndromic hearing loss test diagnosis between 1 January 2020 and 30 August 2020 were included. Participants enrolled at three schools for at least 6 months prior to their PSNHL diagnosis. Parents were required to document their watta satta and

consanguineous relationships to increase the likelihood that the assessment captured family-making custom. WS&CS ascertainment is obtained at every parent's encounter within the deaf school system and documented in self-reported proforma. Questions were asked about their past family-making habits: What was your family relationship before marriage? Does this marriage was based on watta satta agreement? The parent's self-reported response choices were open and recorded on proforma. Watta satta and consanguinity questions have demonstrated good discriminant and face validity in a pilot study.

Data Analysis

The main outcomes observed were degree of consanguinity, and status of watta satta present or absent. Study participants' demographics, deaf child class level, deaf children in family, symptoms, and family-making habits among different marriage relationship groups were compared using the chi-square test for categorical variables. Variates included age, sex underlying consanguinity, and watta satta associated with risk for profound sensory neural hearing loss in the study. Data were analyzed using SPSS.

Results

We identified 1378 registered deaf child students. Of these, 714 were profound sensory neural hearing loss cases aged 18 years or younger and continuously enrolled in deaf rehabilitation schools during the study period. Among these, 16 PSNHL children were from parents who were both watta satta and consanguinity which comprised the analytical cohort for this study (Table 1). The majority of parents (51.8%) in our cohort had 16 or more WS&CS children in that one-year time frame.

Demographics

The study population had an average age of 9.8 years (SD 3.5) and included 38% females (table 1). 94.5% consistently met consanguinity and 3.2% were purely exchange marriage and reminder falling in exchange marriage along with consanguineous category (2.2%). The consanguinity related PSNHL students were enrolled in primary class education (4.8%), followed by secondary class education (42%), high secondary education class (43%), and intermediate education class (10%). The percentage of those families who were consistently meeting watta satta arrangement was lower among those consanguinities' families. Among all cases with PSNHL, 94.5% were consanguineous and 3.2% were exclusively watta satta families.

Deaf Individuals Enrolled in Four Rehabilitation Schools
from 20 January 2020 to 30 April 2021
N= 1378

PSNHL Children (0-18 years) Registered in
Rehabilitation Schools. n= 714

Consanguinity (n) (%)	Watta Satta (n) (%)	Consanguinity & watta satta (n) (%)
675 94.5	23 3.2	16 2.2

Table

Discussion

This study identified that the prior parental exchange marital activity was associated with a reduced risk for hearing loss outcomes among affected deaf children. Parental watta satta i.e. exchange marriage does not appear to be a contributory factor of consanguinity in relation to hearing loss in deaf children. Many of the exchanged marriages were also consanguineous, a pertinent rare pattern detected in this study. This could be due to the predominant low health literacy effect along with customary freedom of choice practices in order to fulfill the social goal. Although fair wealth distribution strategies as per contextual constitutional provision put forward to the prevention of exchange marriage benefiting others.

There is an emerging need of recording family data at every PSNHL child's encounter with a rehabilitation services provider. This study shows parental marital meeting activities are a determinant of hearing loss outcomes. The magnitude of risk for all outcomes associated with being choices exceeding the odds of preference and the covariate syndromic hearing loss, and comorbidity were excluded. It indicates that the parental shared activities may play a cardinal role as a determinant for hearing loss outcomes. Consanguinity is Latin word means common blood i.e. a close kinship between husband & wife. Literally, watta satta is a form of wedlock based on the restriction of outflow of wealth within a family or an arrangement annulled on the ground of a bride exchange between families and families are blood relatives or non-blood relatives in Pakistan (Bhutta, et al (2015)).

It should be noted that the decline in admission rate for deaf children is due to the fact that almost all families shared a supportive environment and likely suggest an increased risk for PSNHL-related consanguinity and watta satta. In fact, PSNHL children with consanguinity and watta satta relationship had a much higher benefit

from a family shared environment. The benefit of a family's shared environment is bonding, wealth accumulation, and peace in the community. But the higher risk of chronic diseases for example diabetes mellitus is probably a result of the shared family environment.

However, doing consanguinity watta satta provided substantially higher odds for hearing loss outcomes than consistently meeting contextual non-shared environment practices in families. The reported association for the shared environment in families is not as strong and may increase the risk for hearing loss outcomes. For instance, the shared environment is likely associated with higher consanguinity, watta satta, BMI and greater risk for PSNHL, diabetes mellitus, both co-morbidities associated with severe deafness outcomes, the association of a non-shared environment with negative PSNHL outcomes may be significant that indicated by our estimates. The odds ratio for the shared environment in families was larger than those for almost all chronic conditions and risk behaviors in models, so parental marital meeting activities may be a modifiable factor for hearing loss outcomes. Although data on parental marital meeting contextual norm activities are scarce, a study from UAE found families with diabetes mellitus were likely to report reduced acculturation due to their shared environment [14,15]. Thus, promoting the non-consanguineous non-watta satta marriage exchange relationship may be important for those families having genetic disease shared environment. Contextual norms had established a goal that prohibit watta satta practices in marriages to maximize health benefits. This norm facilitate equity, quality of life and acceptable for nearly all people. The findings here also provide a will for families to be more contextual norm practices in marriage arrangement [16,17]. The study's main strength is the large number of cases with consanguinity, hearing loss outcome measured were objective, indicative of rare urban watta satta and diversity of study sample. The main limitations of this study was that the questions of watta satta along with consanguinity were self-reported, consecutive sampling technique, cross sectional study design and there were no questions of watta satta and consanguinity beyond PSNHL. However, this assessment of watta satta and consanguinity has been previously reported in studies and use of scientific measures allowed for the association of watta satta and consanguinity cases with consistently high and low norm patterns [18]. Other studies have shown that Watta satta practice in marriage can harm to families' servitude [19, 20]. Importantly, it is an observational study, it is not possible to establish a causal relationship between parental consanguinity watta satta practices and its

outcomes. These outcomes except disability could be less severe; those who follow contextual recommended norm guideline in their marriages arrangement or have the capacity to do so. There is confounding and sparse data due to measurement in a natural setting. However, it is a well-known fact worldwide, preventing inheritance wealth accumulation in families, disabilities and chronic diseases [21,22,23]. A national survey of exchanged wedlock along with consanguineous is needed in Pakistan in order to better understand the baseline situation.

Conclusion

Contextual exchanged wedlock along with consanguineous practices frequency was very low among hearing loss outcomes. The family marital guideline, contextual value-based tax law promoted in carrier families.

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Ethical approval: This study involves human participants and was approved by the institutional review board of Jinnah Sindh Medical University (No.262). Participants gave informed consent to participate in the study before taking part.

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