

Postpartum depression and suicidal ideation in new mothers with hearing loss: Perceived social support as a moderator, a multicentre study

Bushra Akram,¹ Mirza Ashfaq Ahmed,² Fauzia Maqsood,³ Bushra Bibi⁴

Abstract

Objective: To explore postpartum depression as a predictor of suicidal ideation and to find if perceived social support had a moderator effect in this scenario among new mothers with hearing loss.

Methods: The descriptive cross-sectional study was conducted from March to September 2018 in Lahore, Islamabad, Rawalpindi, Gujrat, Gujranwala, Jhelum and Sialkot Cities of Pakistan. New mothers with hearing loss (HL) and those without hearing loss were recruited from maternity clinics 2 to 6 weeks after the delivery. Standardised tools were used to measure postpartum depression, perceived social support and suicidal ideation among the subjects. Data was analysed using SPSS 21.

Results: Of the 547 subjects, 272 (49.7%) were those with hearing loss and 275 (50.3%) were without hearing loss. Odd ratio showed that mothers with hearing loss were 1.97 times more likely to exhibit postpartum depression compared to those without hearing loss, whereas participants with HL were 1.08 times more likely to be at risk of having suicidal behaviours compared to those without hearing loss. On the other hand, those without hearing loss were 0.97 times higher on social support. Postpartum depression was a positive predictor ($p < 0.001$) whereas perceived social support negatively ($p < 0.001$) predicted the suicidal ideation of new mothers with hearing loss. The interaction of postpartum depression and perceived social support negatively affected (< 0.001) suicidal behaviour.

Conclusion: Perceived social support appeared to lower the probability of postpartum depression and suicidal ideation among mothers with hearing loss.

Keywords: Postpartum depression, Suicidal ideation, Perceived social support, New mothers with hearing loss. (JPMA 70: 213; 2020) <https://doi.org/10.5455/JPMA.11537>

Introduction

Pregnancy, labour and the act of delivering a baby are significant experiences in the life of a woman. Though for majority of mothers it all remains a joyful life experience, this can be a cause of turmoil for some new mothers for whom the experience may affect emotional wellbeing in a negative way. Successful adaptation of a mother with this change depends upon her bio-psychosocial being as well as on the support from her family and society.¹ In the early puerperium, majority of women may experience multiple physical and psychological changes. They may experience irritability, anxiety, incomprehensible crying, poor concentration and exhaustion. This state is often referred to as postnatal blues or baby blues that result in conditions like sleep deprivation, post-delivery hormonal changes, fatigue and changed lifestyle which may taper off after two weeks of delivery. These symptoms are considered normal whereas postpartum depression (PPD) is an extended period of maternal blues that lasts more than 10 days after childbirth. It is also called maternal

depression that affects 13% of women within 6 months post-delivery. It is characterised by inability to enjoy pleasurable activities, insomnia, disturbed sleep, fatigue, appetite disturbance, suicidal ideation (SI), recurrent thoughts of death, forgetfulness, poor concentration, reduced self-esteem, anxiety, guilt, loss of energy, and indecisiveness with a 10-15% incidence rate.² Similarly, the prevalence of depression among women aged 18-29 years has been reported at different time-points from late pregnancy to postpartum. The prevalence of depression was 25% at time 1 (T1), 13.5% at T2 and 20.8% at T3.³

Predictive factors include low quality of life, child care stress or dysfunctional parenting, unwanted pregnancy, gender of the new-born, financial issues, illiteracy, extended family system, and low level of social support. It affects mother's health and puts her life at stake, obstructs her ability to accept herself in the role of a mother, and leaves her incompetent to provide sufficient child care.⁴

Findings suggest that suicide is one of the leading causes of death in postpartum women. SI and self-harm behaviour has been reported among women with depression. Self-harm thoughts have been reported by almost 21% depressed women out of which 15.6% had

.....
^{1,4}Department of Psychology, ²Department of Management Sciences,
³Department of Sociology, University of Gujrat, Pakistan.

Correspondence: Bushra Akram. Email: bushra.akram@uog.edu.pk

'hardly ever' and 34% had 'sometimes' or 'quite often' had such thoughts.⁴

Social support is a voluntary act. It is the availability of assistance that can be in the form of three-dimensional construct consisting of emotional support (concern, comfort, and encouragement sense of belongingness), instrumental support (money, time, and tangible assistance), and informational support where advice, education and knowledge sharing takes place. Studies indicated that the provision of social support to mothers during pregnancy and after childbirth is considered a contributing factor in lowering the risk of PPD.⁴ Similarly, other studies revealed that lower affectionate support and lower positive social interaction were related to a higher likelihood of postnatal depression and suicidal ideation.⁴ Support gives us relief and work as an asset when someone is in a stipulation of dissatisfaction. Social support has been found to be a predictor of satisfaction among parents of children with disabilities.⁵

Lack of support can be associated with PPD. Postpartum women with low social support have significantly higher depression scores than those with high social support. Literature indicates that women with disabilities face multiple difficulties in availing healthcare facilities during and after the pregnancy period. Some major barriers are distant locations of health centres, unfriendly physical structure and high cost of healthcare services.⁶ Moreover, healthcare professionals and staff are not trained in providing services to women with disabilities during and after pregnancy. They have poor knowledge about addressing the healthcare needs of these women. Above all, women with disabilities face negative attitude from healthcare professionals and other people that they should not become pregnant, whereas emotional, psychological and social support are integral to women's mental and physical health.^{7,8}

According to the findings of a study⁹ PPD was experienced by 14% among teen mothers and 7.2% among adult mothers ($p < 0.001$).

Social support as a variable has been found to play an important role in maintaining the psychological wellbeing of the people. Social support can be categorised as instrumental and social support. Instrumental support is mainly related to financial and other forms of tangible resources whereas availability of care, love, empathy, advice and information are some examples of emotional support. Perceived social support (PSS) is related to self-appraisal. It is an individual's perception of whether social network is adequately supportive or not.¹⁰ There is a lack of published material

on PPD and social support on individuals with disabilities. It is known that disability itself is not a primary cause of psycho-social problems among the individuals with disabilities. The attitude of the significant others and society towards the individual with disabilities matters a lot. The financial and emotional support of the family and society play a constructive and positive role in the psycho-social development of individuals with disabilities.⁹

The current study was planned to evaluate PPD level on the basis of hearing loss, to investigate the relationship of PPD, SI and PSS, and to explore the effect of PSS as a moderator on PPD and SI levels in new mothers with hearing loss (HL).

Subjects and Methods

The descriptive cross-sectional study was conducted in Psychology Department, University of Gujrat from March 2018 to September 2018 in Lahore, Islamabad, Rawalpindi, Gujrat, Gujranwala, Jhelum and Sialkot Cities of Pakistan. The sample size was calculated¹¹ by multiplying 10 to the number of items (27) of three instruments used in the study. Mothers with HL were approached through snowball sampling technique. First of all, two new mothers with HL were selected from maternity clinics located in Islamabad and Lahore as reference. Afterwards with the help of these new mothers, more participants were recruited from public and private maternity clinics. New mothers without HL were recruited conveniently from the same maternity clinics for comparing the levels of PPD, SI and PSS with HL mothers. In both groups, new mothers in the age range of 22-33 years and in the 2-6 week post-delivery phase who had new-borns without HL and who gave written informed consent were included. The exclusion criterion was mothers in their more than 6 months post-delivery phase; were not with the first baby and had new-borns with HL.

Urdu versions of Edinburgh Postnatal Depression Scale (EPDS),¹² Multi-Dimensional Perceived Social Support (MPSS),¹³ and Suicidal Ideation Attributes Scale¹⁴ (SIDAS) were administered to assess PPD, PSS and SI. EPDS and MPSS were already in Urdu language. SIDAS was translated into Urdu after taking permission from the authors.^{14,15} Five bilingual experts translated these scales from English into Urdu, and a single copy of Urdu version was produced after scrutinizing the translated version of each expert. The single generated copies of the translated scales were given to other three bilingual experts for forward translation in English. Only minor corrections were made to the statements. All of the 5 items of SIDAS

were retained. The final Urdu form of the scale was administered on 100 students of the Department of Psychology, University of Gujrat to know if they could understand the language and wording of the items. The correlation value between original scale and Urdu scale was $r=0.84$. Alpha reliabilities of EPDS (19 items), MPSS (12 items) and SIDAS (5 items) were $\alpha=0.79$, $\alpha=0.80$ and $\alpha=0.78$ respectively in the current study. Different studies have reported the content and construct validity of the three instruments.¹²⁻¹⁴

Total communications method was used with HL mothers to collect data. The statements were read aloud by the researchers with manual communication to the respondents. The respondents also used lip reading to understand the items. The mothers' responses were recorded. Moreover, help was taken from the relatives accompanying the HL mothers in the maternity clinics to communicate the items of questionnaires. HL severity was reported by the mothers themselves on four severity levels: mild, moderate, severe and profound which were scored from 1 to 4. The mothers reported their levels of hearing loss on the basis of audiograms attached in their medical record kept within the maternity clinics. Audiograms are graphs that indicate HL levels and are produced by audiologists after performing audiometry tests. An audiogram describes the degree of HL in decibels (db) which is a unit of hearing ability¹⁶. The decibels are given against the levels of hearing loss, i.e., mild (25-40 db); moderate (41-70 db); severe (71-90 db) and profound (91+).¹⁶

Ethical considerations were carefully taken into account. Permission was obtained from the heads of the maternity clinics. Permission were obtained from the authors of the questionnaires. Informed consents were taken from the participants and they were informed about the purpose of the study. Participants were allowed to quit from study

at any time without penalty.

Binary logistic regression model was run on the two groups to compare their PPD, PSS and SI levels. One-way analysis of variance (ANOVA) was administered to see the within group mean scores comparison at the four HL levels of hearing loss. The Hayes Process Procedure version 3¹⁷ with Model 1 was run on SPSS 21 to analyse the moderating effect of PSS on PPD and SI.

Results

Of the 605 subjects approached, 547(90.4%) completed the study. Of them, 272(49.7%) were those with HL and 275(50.3%) were without HL. Among the HL mothers, 32(11.8%) were in the mild category, 75(27.6%) moderate, 88(32.3%) severe, and 77(28.3%) had profound HL. Odd ratio (OR) showed that HL mothers were 1.97 times more likely to exhibit PPD compared to the non-HL mothers, and HL mothers were 1.08 times more likely to be at risk of having SI compared to the non-HL mothers. Non-HL mothers were 0.97 times higher on PSS (Table-1).

The obtained scores of the participants on EPDS further supported the results. A total of 122(45%) mothers with HL obtained higher scores than the cut-off score of 10, and, of them, 20(16%) had SI. Further, 82 (30%) mothers with HL showed higher levels of PPD and, of them, 7(8%)

Table-1: Odd Ratio showing probability of suicidal behaviour among new mothers with (N=272) and without hearing loss (N=275).

	B	SE	P-value	Exp (B) [95% CI]
Constant	14.03	2.32	0.001	
PPD	0.67	0.26	0.009	1.97 [1.18- 3.28]
SI	0.06	0.02	0.002	1.08 [1.02- 1.11]
PSS	-0.02	0.01	0.006	0.97 [0.96 -0.99]

PPD (Post-Partum Depression) SI (Suicidal Ideation) PSS (Perceived Social Support).
CI (Confidence Interval).B (Unstandardized Beta Coefficient) SE (Standard Error) Exp (B) Exponentiation of the B coefficient

Table-2: One-way Analysis of Variance (ANOVA) showing Mean Scores Differences (MD) of four groups (mild, moderate, severe and profound) of mothers with hearing loss (N=272).

Hearing Levels (I)	Hearing Levels (J)	Postpartum Depression (PPD) MD (I-J)	Perceived Social Support (PSS) MD (I-J)	Suicidal Ideation (SI) MD (I-J)
Mild	Moderate	-8.88*	7.52	-4.78
	Severe	-10.52**	9.98***	-9.55**
	Profound	-11.85***	12.53**	-8.78*
Moderate	Severe	-2.64*	3.35*	-2.67**
	Profound	-3.97**	5.11***	-3.92***
Severe	Profound	-2.32*	1.91	-2.01
F		8.83**	12.23***	13.80***

* $p<.05$; ** $p<.001$; *** $p<.0001$ (I=Mean value of Hearing levels in First Column) (J=Mean values in second column) (MD=Mean Difference of I & J) (I-J=Mean value of first column subtract (-) Mean value of second column) (F= F-Statistics, Ratio of mean squares). The group with mild hearing loss attained less scores on postpartum depression (PPD) and suicidal ideation (SI) than the participants with moderate and severe levels of hearing loss as evident from negative values of MD While the participants with mild hearing loss scored higher on perceived social support (PSS) which are shown by positive values of MD. Higher scores on PPD,SI and PSS indicate higher PPD, SI and PSS.

Table-3: Model Summary of postpartum depression (PPD) and perceived social support (PSS) as predictors of suicidal ideation (SI) through Hayes Process Moderation Model on Mothers with hearing loss (HL).

Variables	B	LLCI	ULCI
Constant	29.17***	28.57	29.78
PPD	1.97**	1.15	3.04
PSS	-1.66***	-2.35	-0.97
PPD*PSS	-1.72***	-2.27	-1.18
R	0.66		
R ²	0.64		
F	26.99***		
df	535		

LLCI (Lower Level of Confidence Interval) ULCI (Upper Level of Confidence Interval) R (Proportion of Variance) R² (R-squared) F (F-Statistics, Ratio of mean squares) df (Degrees of Freedom). B (Unstandardized Beta Coefficient).

Table-4: Effect of postpartum depression (PPD) on suicidal ideation (SI) on Hayes Process Moderation.

Perceived Social Support	b (effect)	LLCI	ULCI
0.99 (one SD below mean)	0.73**	-0.045	1.43
0.16 (At the mean)	-0.97***	-1.69	-0.25
0.89 (One SD above mean)	-2.69***	-3.15	-1.62

SD (Standard deviation) LLCI (Lower Level of Confidence Interval) ULCI (Upper Level of Confidence Interval).b (coefficient of PPD effect on PSS)

revealed SI.

Moderate, severe and profound HL levels reported higher levels of PPD and SI whereas the same groups reported

lower levels of PSS compared to mothers with mild HL (p<0.05 each). The differences were not significant between severe and profound levels (p>0.05) (Table-2).

Further, PPD and PSS were found to be independent variables explaining 64% of the variance in SI. PPD was a positive and significant predictor (p<0.001) whereas PSS was a negative and significant predictor (p<0.0001) of SI among HL mothers. However, the interaction of PPD and PSS was a negative and significant predictor (p<0.0001) of SI (Table-3).

The model appeared to be 11% more fit ($\Delta R^2=0.11$) as a result of PPD and PSS interaction. Moreover, beta coefficients showed that PPD was significantly and negatively related to SI when social support was one standard deviation (SD) above the mean and at the mean (Table-4).

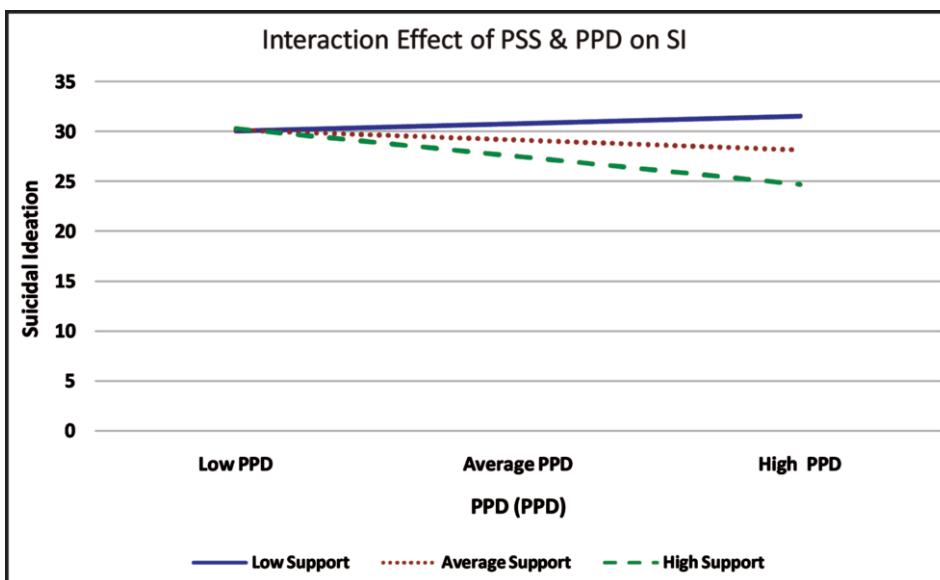
Higher PSS levels lowered PPD ad SI levels whereas higher PPD levels increased SI level among HL mothers (Figure).

Discussion

The main objective of the study was to find the role of PSS in PPD and SI among new mothers with HL. Women with HL appeared to be higher on PPD as well as on SI with low PSS level compared to their counterparts without HL.

The results are in line with the previous studies that concluded the prevalence of higher level of depression and SI among the HL population. This may be due to their different life experiences from the individuals without HL.

Hearing loss is the major cause of communication difficulties which brings many challenges in daily routine lives. The challenges may become severe when they have to face negative attitudes of common individuals towards them.¹⁸ The other able-bodied people lack knowledge to deal with the specific needs of the persons with disabilities. Previous studies found the positive association among loneliness, depression, SI and social exclusion in HL individuals who receive less social acceptance at homes, educational institutions and workplaces.¹⁹ These studies also indicated high level of depression, anxiety, SI and low perceived level among HL



PPD: Postpartum depression. PSS: Perceived social support. SI: Suicidal ideation.

Figure: Interaction effect of PSS & PPD on SI.

individuals compared to their hearing counterparts.¹⁹

Post-partum period demands serious and major adaptations on the part of the mothers. The role of mothers changes just after the arrival of the new-borns who totally depend on their caregivers for their survival such as feeding, cleanliness and healthcare. The caregivers should have proper information, knowledge, commitment and experience to provide care to the newborns. A majority of new mothers need help of their husbands and other people in successful adaptation during this period.²⁰ Further, the mothers themselves need affection and care of husbands and relatives. They need instrumental as well as emotional support. They need help in household chores that were previously done alone.¹⁷ Best possible pre-natal, delivery-time and post-natal care, fulfilment of financial needs, and emotional support are some of the rights of new mothers.²¹

The results of moderation analysis in the current study revealed that social support plays significant role in lowering PPD and SI levels among HL mothers. The results are in line with studies reporting that PSS minimizes the chances of PPD.²² PSS has been found to be a preventive factor of depressive symptoms among individuals with disabilities. It has been observed that provision of social support improves self-esteem, self-concept and psychological wellbeing of people with disabilities.²²

OR showed that HL women had low PSS level compared to non-HL women which may be the cause of PPD and SI. However, PPD was prevailing in both the groups. The plausible reason may be linked with the role of women in Pakistani culture where most women do not play roles as providers and producers, thus lacking social value and status. They are expected to be patient, sympathetic, empathetic, reliable, kind, polite, obedient and able to compromise, organise, coordinate and maintain their homes. They are also responsible for the care of family, especially the parents of her husband and children. They are expected to do all the household chores and sacrifice their dreams.²³ They do not have full control over their lives, and they have to follow the orders of their fathers, brothers and husbands. Generally the males play the role of breadwinners, but in times of financial problems, the women are also expected to earn.²² Usually, they are married with the men chosen by their fathers and they have to live with the relatives of their husband in a joint family system.²⁴ Therefore, in the beginning of their marriage, they have to face many challenges related to adjustment in their husband's house. In short, it can be said that life of a

woman is not very comfortable in Pakistan and women with HL may face serious challenges, especially during their pregnancy and after giving birth to children.²⁵ Literature indicates that women should be properly informed and aware about their maternity care needs whereas HL women, due to communication barriers, may lack this knowledge. They need more attention, care and support from their family members in terms of maternity and child care.^{25,26} Previous studies concluded that HL individuals face rejection, social exclusion and maltreatment from their families and society.^{18,19}

The current study has limitations as in-depth reasons of PPD and low PSS by HL mothers was not explored due to the quantitative design of the study. Future studies should investigate the association of other demographic and environmental factors of PSS and PPD.

Conclusion

New mothers with HL reported higher levels of PPD, SI and lower PSS level. However, PSS appeared to be a preventive and protective factor of PPD. The significance of support from social network cannot be denied to maintain mental health and to deal with other stressful situations that could arise for the new mothers during the transition period after childbirth. It is imperative to initiate awareness campaigns about the significance of the provision of social support to the mothers in pre-natal, during pregnancy and post-natal phase among the community, including individuals with disability as well as health professionals.

Conflict of Interest: None.

Disclaimer: None.

Source of Funding: None.

References

- Hassan HA, Evans MK. Women's Long-Term Life Experience after Pregnancy Termination for Fetal Abnormality: Interpretive Phenomenological Study. [Online] 2015 [Cited 2018 Sep 10]. Available from: URL: <https://www.google.com/url?sa=t&rc=j&q=&src=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwiHpv6P3OTdAhXCCwKHSdHDvWQFJA AegQICRAC&url=https%3A%2F%2Ffir.lib.uwo.ca%2Fcgi%2Fviewcontent.cgi%3Farticle%3D4351%26context%3Ddetd&usq=AOvVaw2FbJhp6Oif9zq5HqBHxr5dP>
- Rai S, Pathak A, Sharma I. Postpartum psychiatric disorders: Early diagnosis and management.[Online] 2015 [Cited 2018 July 14]. Available from: URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4539865/>
- Zhou C, Zheng W, Yuan Q, Zhang B, Chen H, Wang W, et al. Associations between social capital and maternal depression: results from a follow-up study in China. *Pregnancy Childbirth*. [Online] 2018 [Cited 2018 Sep 10]. Available from: URL: <https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-018-1673-9>

4. Sit D, Luther J, Buysse D, Dills JL, Eng H, Okun M, et al. Suicidal Ideation in Depressed Postpartum Women: Associations with Childhood Trauma, Sleep Disturbance and Anxiety. [Online] 2015 [Cited 2018 August 06]. Available from: URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4458196/>
5. Habib HA, Asmat A, Sabahat N. Parental Satisfaction with Life and Perceived Social Support of Parents of Children with Intellectual Disability. [Online] 2016 [Cited 2018 February 17]. Available from: URL: <http://www.ijisr.issr-journals.org/abstract.php?article=IJISR-15-262-05>
6. Ganle JK, Otupiri E, Obeng B, Edusie AK, Ankomah A, Adanu R. Challenges Women with Disability Face in Accessing and Using Maternal Healthcare Services in Ghana: A Qualitative Study. PLOS One [Internet]. 2016 June [cited 2018 Sep 10]; 11(6): Available from: URL: <https://doi.org/10.1371/journal.pone.0158361>
7. Ahumuza SA, Matovu KBJ, Ddamulira JB, Muhanguzi KF. Challenges in accessing sexual and reproductive health services by people with physical disabilities in Kampala, Uganda. [Online] 2014 [Cited 2018 Oct 11]. Available from: URL: <https://reproductive-health-journal.biomedcentral.com/articles/10.1186/1742-4755-11-59>.
8. Afzal S, Khalid R. Social Support and Postnatal Depression in Pakistani Context. Pak J Soc Clin Psychol. 2014;12:34.
9. Kim THM, Connolly JA, Tamim H. The effect of social support around pregnancy on postpartum depression among Canadian teen mothers and adult mothers in the maternity experiences survey. [Online] 2014 [Cited 2017 Jan 04]. Available from: URL: <http://www.biomedcentral.com/1471-2393/14/162>.
10. ÇELİK A, AKGEMCİ T, Didem KA. A research levels of perceived social support on the responsible persons of the hospital units. Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi. 2012;21:357-70.
11. Bentler PM, Chou CP. Practical issues in structural modeling. Sociol Methods Res. 1987;16(1):78-117.
12. Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. Br J Psychiatr. 1987; 150: 782-6.
13. Jibeem T, Khalid R. Predictors of Psychological well-being of Pakistani Immigrants in Toronto, Canada. Int J IntercultRelat. 2010; 34: 452-64.
14. VanSpijker BA, Batterham PJ, Calear AL, Farrer L, Christensen H, Reynolds J, et al. The Suicidal Ideation Attributes Scale (SIDAS): Community-based validation study of a new scale for the measurement of suicidal ideation. Suicide Life Threat Behav. 2014; 44:408-19.
15. Akram B, Batool M, Bibi A. Burden of care and Suicidal Ideation among Mothers of Children with Autism Spectrum Disorder: Perceived Social Support as a Moderator. J Pak Med Assoc. 2018; 69: 504-08
16. What is an Audiogram? [Online] [Cited 2018 May 7]. Available from: URL: <https://www.babyhearing.org/what-is-an-audiogram>
17. Hayes AF. Introduction to mediation, moderation, and conditional process analysis 2nd edition. New York: The Guilford Press, 2018.
18. Akram B, Shafiq, S. Maltreatment among deaf, their non-disabled siblings and hearing children: Prevalence and prevention. EuroAcad Res. 2014; 1:2963-86.
19. Bertoni M, Celidoni M, Weber G. Does hearing loss lead to social exclusion? [Online] [Cited 2015 Sep 16]. Available from: URL: <https://www.degruyter.com/downloadpdf /books /9783110444149783110444414-010.pdf>.
20. Cremonese L, Wilhelm LA, Prates LA, de Paula CC, Sehnem GD, Ressel LB. Social support from the perspective of postpartum adolescents.[Online]. 2017 [Cited 2018 May 23]. Available from: URL: <http://dx.doi.org/10.1590/2177-9465-ean-2017-0088>
21. Rodrigues ESRC, Torquato JA, Davim RMB, Oliveira LFM, Alves ESRC, Nóbrega MF. Perception of women on their rights in pregnancy and childbirth. [Online] 2016 [Cited 2017 Mar 10]. Available from: URL: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/9027/pdf_10228.
22. Itzick, M, Kagan M, Tal-Katz P. Perceived social support as a moderator between perceived discrimination and subjective well-being among people with physical disabilities in Israel. [Online] 2017 [Cited 2017 Nov 18]. Available from: URL: <https://www.tandfonline.com/doi/abs/10.1080/09638288.2017.1331380>
23. Gender Roles In Pakistan Sociology Essay. [Online] 2013 [Cited 2018 July 11]. Available from: URL: <https://www.ukessays.com/essays/sociology/gender-roles-in-pakistan-sociology-essay.php?vref=1>
24. Setareh FA, Mahmoodi A, Jorjoran SZ, Salimi Y, Sajjadi H, Mahmoodi Z. Perceived Social Support Among People With Physical Disability. [Online] 2013 [Cited 2017 Sep 20]. Available from: URL: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3918189/>
25. Kelly G, Kelly B, Macdonald G. Improving the well-being of disabled young people. [Online] 2016 [Cited 2018 Feb 24]. Available from: URL: www.poverty.ac.uk/.../attachments/Improving-wellbeing-disabled-young-pe.
26. Drageset J, Eide GE, Nygaard HA, Bondevik M, Nortvedt MW, Natvig GK. The impact of social support and sense of coherence on health-related quality of life among nursing home residents—a questionnaire survey in Bergen, Norway. Int J Nurs Stud. 2009;46:65–75