Data were analysed using descriptive statistics and thematic analysis.

Results In total 355 respondents completed the survey (overall response rate 25.1%). Statistical analysis of survey data revealed that n=100 respondents (28.2%) had been involved in a research study but only n=24 (6.8%) had been a lead investigator. Twenty-one (5.9%) respondents had a publication within the last five years and n=85 (23.9%) had presented a poster at a local (n=61, 17.2%), national (n=34, 9.6%) or international (n=22, 6.2%) conference. Just over a fifth (n=74; 20.8%) had given an oral presentation at a local (n=59, 16.6%), national (n=26, 7.3%) or international (n=15, 4.2%) conference. On a whole, respondents self-rated their research skills as weak or average across all stages of their research (with overall research competence rated as weak/average n=236, 66.5%). Thematic analysis of qualitative data revealed six themes including; time for research; incentives to engage in research; awareness and promotion of research; research training needs; supports required to enable research; and perceived challenges impacting on nurses’ ability to undertake research.

Conclusions There is the need for a clearer strategic vision and political commitment to establish a research supportive environment for nurses working in children’s hospitals to conduct research. Particular recommendations focus on additional time, mentorship, communication, information and education. This survey is one aspect of a number of activities informing the development of a research capacity building strategy for children’s nursing at a time of reconfiguration of paediatric health services in Ireland.

GP134 - CONFIRMATION OF PATHOGENETIC HETEROGENEITY OF DIABETES MELLITUS IN CHILDREN USING WHOLE-EXOME SEQUENCING

Maria Turkunova, Lilya Dikovskaya*, Elena Bachchina, Evgeny Suspitin, Olga Benseneva, Oleg Glotov, Elena Serbreshkova, Andrey Glotov, Manja Kropatenko, Tatiana Ivaishchenko, Madisov Baranov, Lidmidia Zhelemina. St. Petersburg State Paediatric Medical University, Saint Petersburg, Russian Federation; North-Western State Medical University named after I.I. Mechnikov, Saint Petersburg, Russian Federation; O.O. Ott Research Institute of Obstetrics, Gynecology and Reproductology, Saint Petersburg, Russian Federation; St. Petersburg State University, Saint Petersburg, Russian Federation; FSBE Institute of Experimental Medicine, Saint Petersburg, Russian Federation

Background In the conditions of dynamic development diagnostic capabilities and understanding of the pathogenic mechanisms of diabetes, the main task of clinicians is the earliest possible verification of the type of diabetes. New diagnostic methods such as whole-exome sequencing allow to finally verify the type of diabetes mellitus and are of special interest.

Aim Determine the frequency of occurrence and molecular-genetic characteristics of monogenic diabetes in children - residents of St. Petersburg.

Methods We examined 99 patients with suspected hereditary variants of diabetes: MODY, diabetes as a part of genetic syndromes and diabetes occurrence before 6 month. All patients have chronic hyperglycemia, detectable of C-peptide level, negative autoimmune markers for diabetes type 1 (except IPEX-syndrom) and absence of signs of metabolic syndrome for older children.

In our study of DNA of patients with suspicion of monogenic diabetes was performed by whole-exome sequencing. Genetic variants were screened in a total of 35 genes: 13 genes causative of MODY (HNF4A(MODY1), GCK(MODY2), HNF1A(MODY3), PDX1(MODY4), HNF1B(MODY5), NEUROD1(MODY6), KLF11(MODY7), CEL(MODY8), PAX4(MODY9), INS(MODY10), BLK(MODY11), ABCC8(MODY12), KCNJ11(MODY13), and 22 genes causative of transient or permanent neonatal diabetes, including the ones related to specific syndromes (EIF2AK3, PDX6, WFS1, ZFP57, FOXP3, AKT2, PPARG, APPL1, PTF1A, GATA4, GATA6, GLIS3,
Aims We aim to find the prevalence of overweight and obesity in children aged over the age 5 with type 1 diabetes who attend the tertiary referral clinic in our Lady’s Children’s Hospital Crumlin, Dublin.

Methods We measured heights and weights of the children with type 1 diabetes attending the clinic. We entered the data into our electronic database (Diamond version 1, Hicom). The electronic database calculates the child’s body mass index (kg/m²). We exported the data to SPSS Version 24 IBM. We calculated the children’s BMI Z-score using the WHO Reference 2007 SPSS macros package. We used the WHO 2007 Reference normative data and the definition of overweight as BMI z-score for age more than 1 standard deviation away from the mean (represents 85th centile). We used the WHO definition of obesity as BMI z-score for age more than 2 standard deviations away from the mean (represents 97th centile). We ran descriptive statistics. We analysed the relationship between BMI z-score and HbA1c using a linear regression model.

Results 541 children attended the diabetes clinic. 511 of these children were over the age of 5. Of these children 38.7% had a BMI z-score +1 SD away from the mean in the WHO reference data reflecting overweight. Of the 511 children 47 or 9.2% of them had a BMI z-score +2SD from the mean normative data reflecting obesity and 1.2% had a BMI z-score of +3SD away from the mean reflecting severe obesity. There was no statistically significant relationship between BMI z-score and HbA1c using linear regression.

Conclusion Our results highlight the high prevalence of overweight and obesity in children with type 1 diabetes. The prevalence of overweight and obesity is nearly double that of the general population. This is a relatively new phenomena. Various causes have been postulated including insulin therapy since the early 90s as well as the secular trend in overweight and obesity.

<table>
<thead>
<tr>
<th>Percentage of patients at low, moderate and high risk on RIPGC at baseline and at T1</th>
<th>Baseline</th>
<th>T1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>68.6%</td>
<td>73.8%</td>
</tr>
<tr>
<td>Moderate</td>
<td>16.3%</td>
<td>11.2%</td>
</tr>
<tr>
<td>High</td>
<td>15%</td>
<td>15%</td>
</tr>
</tbody>
</table>

At baseline: 31.3% of patients had a moderate score and high scores on RIPGC. At T1: 26.2% of patients had a moderate score and high psychosocial risk scores. Paired analysis showed that the difference in RIPGC score between baseline and T1 was not significant (p>0.05). Three patients (3.3%) increased the risk from low to moderate, another 3 patients (3.3%) from low to high risk and 2 patients (2.2%) from moderate to high risk. However, 12 patients (13.3%) reduced the risk with a time: 7 patients (7.7%) moved from category of moderate risk to low risk, 3 (3.3%) - from high to low and 2 (2.2%) - from high to moderate risk category. The distribution of low, moderate and high risk patients did not differ significantly in baseline group and T1 (p>0.05).

Conclusions Almost one third of children with T1D in Irish population are at moderate and high psychosocial risk. The routine care provided by health professionals doesn’t reduce this risk significantly with time. Our data indicates the need of intervention by trained clinical psychologist for children with T1D and psychosocial risk.