

Impact of an employer-provided migraine coaching program on burden and patient engagement: results from interim analysis

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INTRODUCTION

- Migraine is a painful neurological disease affecting one of the every 7 people worldwide (14.7% global prevalence), and is associated with substantial disability resulting in poor quality of life. Migraine mainly affects people during their prime working years (30-50 years) resulting in a substantial impact on workplace productivity¹⁻³
- The overall annual costs due to migraine were estimated to range from €18 to €111 billion across Europe^{4,5}. Of these, 77% to 93% are estimated to be attributed to indirect costs mainly due to reduced productivity at work and absenteeism^{4,5}
- A global survey conducted in 31 countries across Asia Pacific/Middle East, Europe, and North & South America suggested that approximately 60% of employed individuals with migraine lost almost a full working week (4.6 days) per month due to their disease⁶. In Switzerland, individuals on average reported loss of 31.91 workdays per year due to their migraine, highlighting a considerable impact of disease on both the patients and their employers⁷
- With an aim to raise awareness of migraine in the workplace and provide free coaching to employees and their family members living with migraine, Novartis launched the Migraine Care program in collaboration with patient groups and leading experts in neurology, telemedicine and digital. The program was provided as a complimentary service to all Swiss-based Novartis associates and their family members to empower them in the management of the disease and improve their quality of life

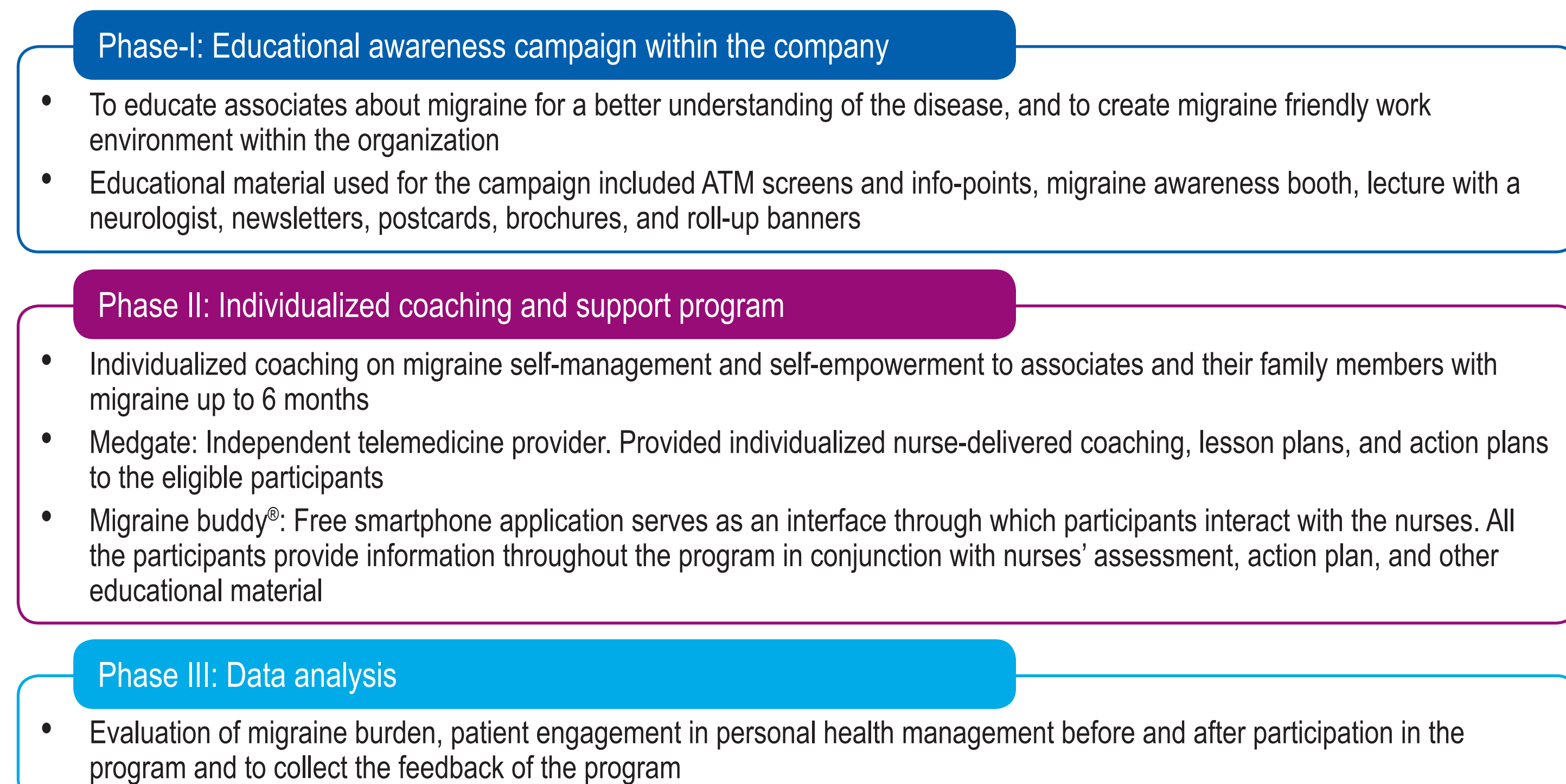
OBJECTIVE

- This study aimed to assess the impact of Migraine Care program through assessing migraine burden and patient engagement in personal health management before and after participation in the program

METHODS

- The Migraine Care support program is an ongoing program, which engages employees in three integrated phases: (I) an educational awareness campaign, (II) an individualized coaching and support program, and (III) data analysis as depicted in Figure 1

Figure 1. Phases of the Migraine Care support program



ATM: Automated Teller Machine

- Following the educational awareness campaign, interested participants could self-enroll into the migraine care program. After enrollment, participants receive a screening call from the telemedicine provider (Medgate nurse) to determine if they had migraine or a high probability of having migraine
- Eligible participants then received six sessions (monthly) of individualized coaching from Medgate supported by an advanced version of Migraine Buddy smartphone application developed by Healint. As part of the program, the participants received:
 - Individualized coaching lessons: Progressive muscle relaxation (PMR), migraine and sleep, understanding migraine better, migraine and stress, migraine and diet, managing migraine at work, documenting migraine better, migraine and relationships, nutritional supplements, prophylactic drugs-background knowledge, and medication-overuse headache
 - Action plans: Drinking enough, sleep, daily routine, sports, what to do in a seizure, migraine diary, coping with the attack, dietary supplements, exercise, referral to a neurologist, and taking prophylactic medication to better manage their condition
- During enrollment into the migraine care program, interested participants could provide consent to allow analysis of their data collected during the program within the Migraine Buddy app
- The impact of program on migraine burden and patient engagement was evaluated through a series of questionnaires and assessments, including:
 - Migraine Disability Assessment (MIDAS): A brief, self-administered questionnaire (seven questions) that quantifies headache-related disability over a 3-month recall period⁸
 - Responses to five questions are used to derive the total MIDAS score. Three of these five questions record the number of missed days due to migraine (absenteeism) in school/paid work, household work, and social activities; while two questions record information related to days with reduced productivity (presenteeism) by half or more at school/work, and in household activities. Higher scores represent more severe disability. MIDAS scores are categorized into 4 severity grades: Grade I = score 0 to 5 (minimal or infrequent disability), Grade II = score 6 to 10 (mild or infrequent disability), Grade III = score 11 to 20 (moderate disability), and Grade IV = 21 and over (severe disability)^{8,9}
 - Remaining two questions inquire about number of headaches and average pain level associated with headaches. These are not used in calculating MIDAS score, and only are for the benefit of clinicians⁸
 - Patient Activation Measure (PAM): This questionnaire measures the activation of patients in managing their own health. It assesses the patient's personal involvement, knowledge of, and actions to alleviate their condition, and maintenance of changes made using a 5-point scale (disagree strongly, disagree, agree, agree strongly, and not applicable). An abbreviated version of the PAM with 10 questions (PAM 10), which is the most widely used version of the PAM, was used for this study¹⁰
 - Patients are categorized into one of four activation levels along an empirically derived continuum (Level 1: disengaged and overwhelmed; Level 2: becoming aware and still struggling; Level 3: taking action and gaining control; Level 4: maintaining behavior and pushing further)
 - Participants with higher levels of activation are associated with better self-management and improved health outcomes¹⁰
- The most commonly used coaching plans and action plans were also assessed
- The interim analysis was performed on patients enrolled into the program till 15th June 2019

CONCLUSIONS

- The study results demonstrate that employer-initiated educational and counseling support can significantly decrease migraine-related disability and promote disease self-management among employees
- The study results suggest the systematic inclusion of migraine management to corporate well-being programs would be of significant benefit to the impacted individuals, companies and ultimately societies

RESULTS

- A total of 320 participants with a diagnosis or high probability of migraine were registered into the program till 15th June 2019. Of these, 120 participants consented to use their data for the retrospective analysis. Here, the participants' demographics and interim results are presented for the 70 participants who completed both baseline and 3-month follow-up assessment; 41 of these 70 participants had completed 6 months

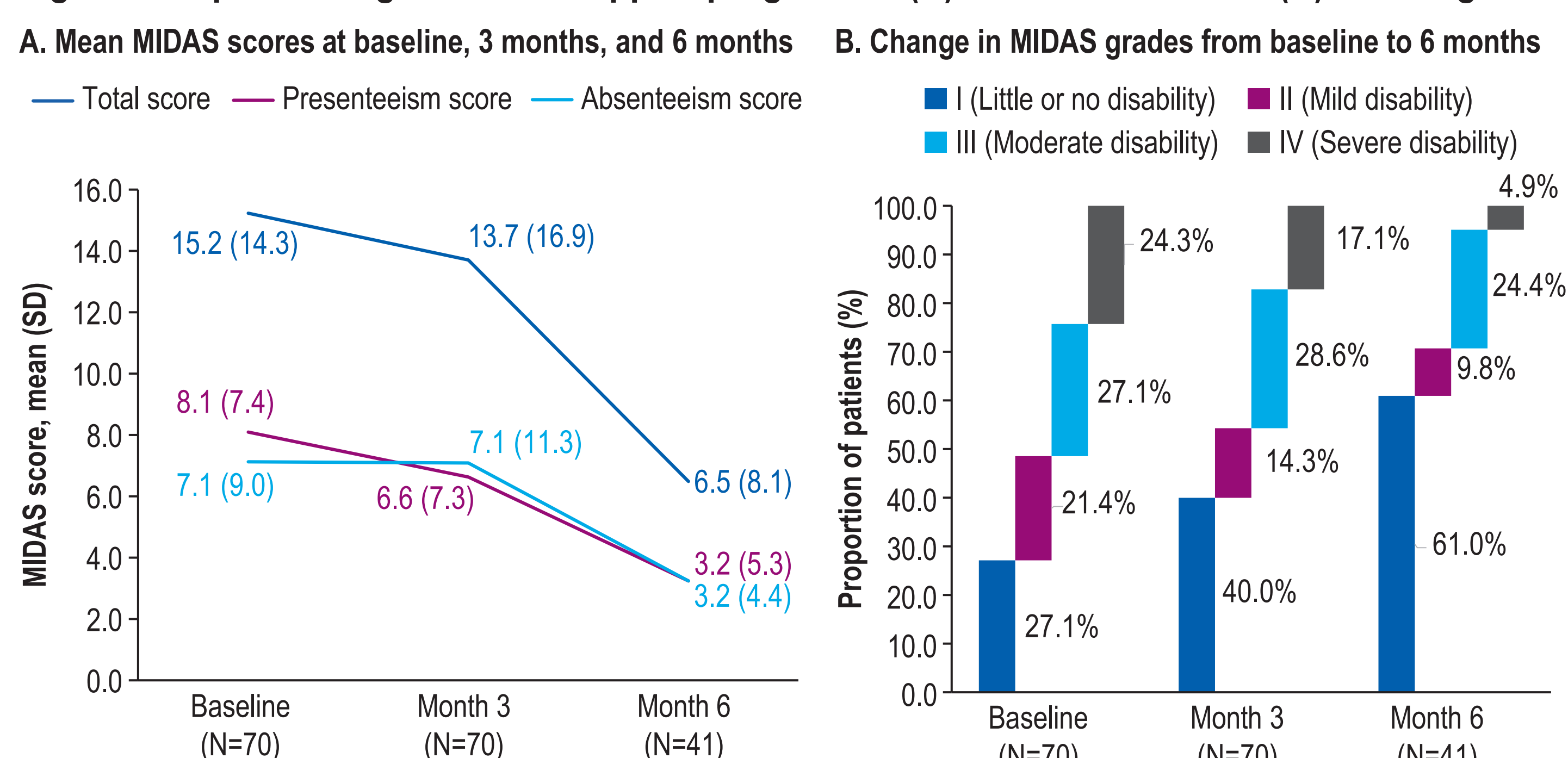
Baseline characteristics

- At baseline (N=70), the mean (standard deviation [SD]) age for the analyzed population was 39.0 (8.0) years and 67.1% were females. Approximately one-third of the participants (31.4%) had not received a previous medical diagnosis of migraine while 40.0% were diagnosed 10 years ago
- Half (51.4%) of the participants (N=70) were not treated by a physician. Only 21.6% had received migraine treatment (past/currently treated) from a specialist, despite that 72.9% of the participants had MIDAS grade II or higher at baseline

MIDAS and PAM results

- The results from the interim analysis suggest a substantial reduction in migraine disability:
 - At 6 months (N=41), the total MIDAS score decreased significantly from baseline (mean [SD] reduction: 8.7 [6.2], P=0.001). Similarly, a mean reduction of 4.9 (2.1) and 3.9 (4.6) was observed in presenteeism and absenteeism scores, respectively (Figure 2A)
 - The percentage of participants in the MIDAS grades II-IV decreased from 72.9% at baseline to 39.0% at 6 months (Figure 2B)

Figure 2. Impact of migraine care support program on (A) MIDAS scores and (B) MIDAS grades



- Similarly at 6 months (N=41), a significant increase in PAM scores from baseline was observed (mean increase [SD]: 7.1 [1.2], P=0.0009); suggesting a considerable improvement in knowledge, skill and confidence of the study participants to take on the role of managing their own health and health care
 - A considerable decrease was noted in the percentage of participants in activation levels 1 and 2 from 20.0% at baseline to 2.4% at 6 months
 - A substantial increase in percentage of participants in activation levels 3 and 4 from 80.0% at baseline to 97.6% at 6 months

Coaching lessons and action plans

- Among the participants completing 3 months (N=70), the mostly used coaching lessons focused on PMR (75.7%), sleep (57.1%), general disease understanding (50.0%), stress (45.7%), and diet (38.6%). Similarly, the top action plans concentrated on drinking enough (80.0%), sleep (78.6%), diet (52.9%), daily routine (52.9%), and sports (41.4%)

LIMITATIONS

- The major limitations of this study include non-generalizability of results, as this study was limited to Novartis employees and their family members, and absence of a control group to allow for an adequate comparison

REFERENCES

- Steiner et al. 2013. *J Headache Pain*; 14 (1): 1
- Woldeamanuel et al. *Journal of the Neurological Sciences*, 2017. 372: p. 307-315
- Vo P et al. *J Headache Pain*. 2018; 19 (1): 82
- Olesen J et al. *European Journal of Neurology*. 2012; 19 (1): 155-623
- Linde M. et al. *European Journal of Neurology*. 2012; 19 (5): 703-115
- Martelletti, P. et al. *J Headache Pain*. 2018; 19 (1): 115
- Paris et al. *European Journal of Neurology*. 2018; 25 (Suppl. 2), 232
- Stewart et al. *Pain*. 2000 Oct; 88 (1): 41-52
- Bagley et al. *Headache*. 2012 Mar; 52 (3): 409-21
- Hibbard et al. *Health Serv Res*; 39 (4 Pt 1): 1005-102

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DISCLOSURES

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